

- 1, TITLE: Going Deeper With Convolutions
http://openaccess.thecvf.com/content_cvpr_2015/html/Szegedy_Going_Deeper_With_2015_CVPR_paper.html
AUTHORS: Christian Szegedy, Wei Liu, Yangqing Jia, Pierre Sermanet, Scott Reed, Dragomir Anguelov, Dumitru Erhan, Vincent Vanhoucke, Andrew Rabinovich
HIGHLIGHT: We propose a deep convolutional neural network architecture codenamed Inception that achieves the new state of the art for classification and detection in the ImageNet Large-Scale Visual Recognition Challenge 2014 (ILSVRC2014).

- 2, TITLE: Propagated Image Filtering
http://openaccess.thecvf.com/content_cvpr_2015/html/Chang_Propagated_Image_Filtering_2015_CVPR_paper.html
AUTHORS: Jen-Hao Rick Chang, Yu-Chiang Frank Wang
HIGHLIGHT: In this paper, we propose the propagation filter as a novel image filtering operator, with the goal of smoothing over neighboring image pixels while preserving image context like edges or textural regions.

- 3, TITLE: Web Scale Photo Hash Clustering on A Single Machine
http://openaccess.thecvf.com/content_cvpr_2015/html/Gong_Web_Scale_Photo_2015_CVPR_paper.html
AUTHORS: Yunchao Gong, Marcin Pawlowski, Fei Yang, Louis Brandy, Lubomir Bourdev, Rob Fergus
HIGHLIGHT: We present a fast binary k-means algorithm that works directly on the similarity-preserving hashes of images and clusters them into binary centers on which we can build hash indexes to speedup computation.

- 4, TITLE: Expanding Object Detector's Horizon: Incremental Learning Framework for Object Detection in Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Kuznetsova_Expanding_Object_Detectors_2015_CVPR_paper.html
AUTHORS: Alina Kuznetsova, Sung Ju Hwang, Bodo Rosenhahn, Leonid Sigal
HIGHLIGHT: To this end, we develop a new scalable and accurate incremental object detection algorithm, based on several extensions of large-margin embedding (LME).

- 5, TITLE: Supervised Discrete Hashing
http://openaccess.thecvf.com/content_cvpr_2015/html/Shen_Supervised_Discrete_Hashing_2015_CVPR_paper.html
AUTHORS: Fumin Shen, Chunhua Shen, Wei Liu, Heng Tao Shen
HIGHLIGHT: In this work, we propose a new supervised hashing framework, where the learning objective for hashing is to make the optimal binary hash codes for classification.

- 6, TITLE: What do 15,000 Object Categories Tell Us About Classifying and Localizing Actions?
http://openaccess.thecvf.com/content_cvpr_2015/html/Jain_What_do_15000_2015_CVPR_paper.html
AUTHORS: Mihir Jain, Jan C. van Gemert, Cees G. M. Snoek
HIGHLIGHT: Rather than considering a handful of carefully selected and localized objects, we conduct an empirical study on the benefit of encoding 15,000 object categories for action using 6 datasets totaling more than 200 hours of video and covering 180 action classes.

- 7, TITLE: Landmarks-Based Kernelized Subspace Alignment for Unsupervised Domain Adaptation
http://openaccess.thecvf.com/content_cvpr_2015/html/Aljundi_Landmarks-Based_Kernelized_Subspace_2015_CVPR_paper.html
AUTHORS: Rahaf Aljundi, Remi Emonet, Damien Muselet, Marc Sebban
HIGHLIGHT: In this paper, we introduce a novel unsupervised DA approach based on both subspace alignment and selection of landmarks similarly distributed between the two domains.

- 8, TITLE: Blur Kernel Estimation Using Normalized Color-Line Prior
http://openaccess.thecvf.com/content_cvpr_2015/html/Lai_Blur_Kernel_Estimation_2015_CVPR_paper.html
AUTHORS: Wei-Sheng Lai, Jian-Jiun Ding, Yen-Yu Lin, Yung-Yu Chuang
HIGHLIGHT: This paper proposes a single-image blur kernel estimation algorithm that utilizes the normalized color-line prior to restore sharp edges without altering edge structures or enhancing noise.

- 9, TITLE: A Light Transport Model for Mitigating Multipath Interference in Time-of-Flight Sensors
http://openaccess.thecvf.com/content_cvpr_2015/html/Naik_A_Light_Transport_2015_CVPR_paper.html
AUTHORS: Nikhil Naik, Achuta Kadambi, Christoph Rhemann, Shahram Izadi, Ramesh Raskar, Sing Bing Kang
HIGHLIGHT: In this paper, we correct MPI by combining the standard measurements from a TOF camera with information from direct and global light transport.

- 10, TITLE: Traditional Saliency Reloaded: A Good Old Model in New Shape
http://openaccess.thecvf.com/content_cvpr_2015/html/Frintrop_Traditional_Saliency_Reloaded_2015_CVPR_paper.html
AUTHORS: Simone Frintrop, Thomas Werner, German Martin Garcia
HIGHLIGHT: In this paper, we show that the seminal, biologically-inspired saliency model by Itti et al. is still competitive with current state-of-the-art methods for salient object segmentation if some important adaptations are made.

- 11, TITLE: Automatic Construction Of Robust Spherical Harmonic Subspaces
http://openaccess.thecvf.com/content_cvpr_2015/html/Snape_Automatic_Construction_Of_2015_CVPR_paper.html
AUTHORS: Patrick Snape, Yannis Panagakis, Stefanos Zafeiriou
HIGHLIGHT: In this paper we propose a method to automatically recover a class specific low dimensional spherical harmonic basis from a set of in-the-wild facial images.
- 12, TITLE: Leveraging Stereo Matching With Learning-Based Confidence Measures
http://openaccess.thecvf.com/content_cvpr_2015/html/Park_Leveraging_Stereo_Matching_2015_CVPR_paper.html
AUTHORS: Min-Gyu Park, Kuk-Jin Yoon
HIGHLIGHT: We propose a new approach to associate supervised learning-based confidence prediction with the stereo matching problem.
- 13, TITLE: Saliency Detection via Cellular Automata
http://openaccess.thecvf.com/content_cvpr_2015/html/Qin_Saliency_Detection_via_2015_CVPR_paper.html
AUTHORS: Yao Qin, Huchuan Lu, Yiqun Xu, He Wang
HIGHLIGHT: In this paper, we introduce Cellular Automata--a dynamic evolution model to intuitively detect the salient object.
- 14, TITLE: Efficient Sparse-to-Dense Optical Flow Estimation Using a Learned Basis and Layers
http://openaccess.thecvf.com/content_cvpr_2015/html/Wulff_Efficient_Sparse-to-Dense_Optical_2015_CVPR_paper.html
AUTHORS: Jonas Wulff, Michael J. Black
HIGHLIGHT: Consequently, we develop a novel sparse layered flow method in which each layer is represented by PCA-Flow.
- 15, TITLE: Learning Multiple Visual Tasks While Discovering Their Structure
http://openaccess.thecvf.com/content_cvpr_2015/html/Ciliberto_Learning_Multiple_Visual_2015_CVPR_paper.html
AUTHORS: Carlo Ciliberto, Lorenzo Rosasco, Silvia Villa
HIGHLIGHT: In this paper, we propose and study a novel sparse, non-parametric approach exploiting the theory of Reproducing Kernel Hilbert Spaces for vector-valued functions.
- 16, TITLE: Projection Metric Learning on Grassmann Manifold With Application to Video Based Face Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_Projection_Metric_Learning_2015_CVPR_paper.html
AUTHORS: Zhiwu Huang, Ruiping Wang, Shiguang Shan, Xilin Chen
HIGHLIGHT: To overcome such limitations, we propose a novel method to learn the Projection Metric directly on Grassmann manifold rather than in Hilbert space.
- 17, TITLE: Structural Sparse Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Structural_Sparse_Tracking_2015_CVPR_paper.html
AUTHORS: Tianzhu Zhang, Si Liu, Changsheng Xu, Shuicheng Yan, Bernard Ghanem, Narendra Ahuja, Ming-Hsuan Yang
HIGHLIGHT: In this paper, we propose a novel Structural Sparse Tracking (SST) algorithm, which not only exploits the intrinsic relationship among target candidates and their local patches to learn their sparse representations jointly, but also preserves the spatial layout structure among the local patches inside each target candidate.
- 18, TITLE: Data-Driven Depth Map Refinement via Multi-Scale Sparse Representation
http://openaccess.thecvf.com/content_cvpr_2015/html/Kwon_Data-Driven_Depth_Map_2015_CVPR_paper.html
AUTHORS: HyeokHyen Kwon, Yu-Wing Tai, Stephen Lin
HIGHLIGHT: In this paper, we present a data-driven approach for refining degraded RAW depth maps that are coupled with an RGB image.
- 19, TITLE: Uncalibrated Photometric Stereo Based on Elevation Angle Recovery From BRDF Symmetry of Isotropic Materials
http://openaccess.thecvf.com/content_cvpr_2015/html/Lu_Uncalibrated_Photometric_Stereo_2015_CVPR_paper.html
AUTHORS: Feng Lu, Imari Sato, Yoichi Sato
HIGHLIGHT: Here, we introduce the notion of "constrained half-vector symmetry" for general isotropic BRDFs and show its capability of elevation angle recovery.
- 20, TITLE: Attributes and Categories for Generic Instance Search From One Example
http://openaccess.thecvf.com/content_cvpr_2015/html/Tao_Attributes_and_Categories_2015_CVPR_paper.html
AUTHORS: Ran Tao, Arnold W.M. Smeulders, Shih-Fu Chang

HIGHLIGHT: This paper aims for generic instance search from one example where the instance can be an arbitrary 3D object like shoes, not just near-planar and one-sided instances like buildings and logos.

21, **TITLE:** Heat Diffusion Over Weighted Manifolds: A New Descriptor for Textured 3D Non-Rigid Shapes
http://openaccess.thecvf.com/content_cvpr_2015/html/Abdelrahman_Heat_Diffusion_Over_2015_CVPR_paper.html
AUTHORS: Mostafa Abdelrahman, Aly Farag, David Swanson, Moumen T. El-Melegy
HIGHLIGHT: This paper propose an approach for modeling textured 3D non-rigid models based on Weighted Heat Kernel Signature(W-HKS).

22, **TITLE:** A Dynamic Programming Approach for Fast and Robust Object Pose Recognition From Range Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Zach_A_Dynamic_Programming_2015_CVPR_paper.html
AUTHORS: Christopher Zach, Adrian Penate-Sanchez, Minh-Tri Pham
HIGHLIGHT: We propose to address this difficult problem by generating promising inlier sets for pose estimation by early rejection of clear outliers with the help of local belief propagation (or dynamic programming).

23, **TITLE:** Beyond Gaussian Pyramid: Multi-Skip Feature Stacking for Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Lan_Beyond_Gaussian_Pyramid_2015_CVPR_paper.html
AUTHORS: Zhengzhong Lan, Ming Lin, Xuanchong Li, Alex G. Hauptmann, Bhiksha Raj
HIGHLIGHT: In order to address this problem, we propose a novel feature enhancing technique called Multi-skip Feature Stacking (MIFS), which stacks features extracted using a family of differential filters parameterized with multiple time skips and encodes shift-invariance into the frequency space.

24, **TITLE:** A Geodesic-Preserving Method for Image Warping
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_A_Geodesic-Preserving_Method_2015_CVPR_paper.html
AUTHORS: Dongping Li, Kaiming He, Jian Sun, Kun Zhou
HIGHLIGHT: In this work, we propose a geodesic-preserving method for content-aware image warping.

25, **TITLE:** Shape Driven Kernel Adaptation in Convolutional Neural Network for Robust Facial Traits Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Shape_Driven_Kernel_2015_CVPR_paper.html
AUTHORS: Shaoxin Li, Junliang Xing, Zhiheng Niu, Shiguang Shan, Shuicheng Yan
HIGHLIGHT: In this paper, we explore how the shape information, i.e. facial landmark positions, can be explicitly deployed into the popular Convolutional Neural Network (CNN) architecture to disentangling such irrelevant non-rigid appearance variations.

26, **TITLE:** From Categories to Subcategories: Large-Scale Image Classification With Partial Class Label Refinement
http://openaccess.thecvf.com/content_cvpr_2015/html/Ristin_From_Categories_to_2015_CVPR_paper.html
AUTHORS: Marko Ristin, Juergen Gall, Matthieu Guillaumin, Luc Van Gool
HIGHLIGHT: In this work, we investigate how coarse category labels can be used to improve the classification of subcategories.

27, **TITLE:** Combination Features and Models for Human Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Jiang_Combination_Features_and_2015_CVPR_paper.html
AUTHORS: Yunsheng Jiang, Jinwen Ma
HIGHLIGHT: This paper presents effective combination models with certain combination features for human detection.

28, **TITLE:** Improving Object Detection With Deep Convolutional Networks via Bayesian Optimization and Structured Prediction
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Improving_Object_Detection_2015_CVPR_paper.html
AUTHORS: Yuting Zhang, Kihyuk Sohn, Ruben Villegas, Gang Pan, Honglak Lee
HIGHLIGHT: Building upon high-capacity CNN architectures, we address the localization problem by 1) using a search algorithm based on Bayesian optimization that sequentially proposes candidate regions for an object bounding box, and 2) training the CNN with a structured loss that explicitly penalizes the localization inaccuracy.

29, **TITLE:** A Metric Parametrization for Trifocal Tensors With Non-Colinear Pinholes
http://openaccess.thecvf.com/content_cvpr_2015/html/Leonardos_A_Metric_Parametrization_2015_CVPR_paper.html
AUTHORS: Spyridon Leonardos, Roberto Tron, Kostas Daniilidis
HIGHLIGHT: In this work, we investigate a new parametrization of the trifocal tensor for calibrated cameras with non-colinear pinholes obtained from a quotient Riemannian manifold.

30, **TITLE:** An Efficient Volumetric Framework for Shape Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Allain_An_Efficient_Volumetric_2015_CVPR_paper.html

- AUTHORS: Benjamin Allain, Jean-Sebastien Franco, Edmond Boyer
HIGHLIGHT: In this work, we investigate a novel volumetric shape parametrization to track shapes over temporal sequences.
- 31, TITLE: Structured Sparse Subspace Clustering: A Unified Optimization Framework
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Structured_Sparse_Subspace_2015_CVPR_paper.html
AUTHORS: Chun-Guang Li, Rene Vidal
HIGHLIGHT: In this paper, we propose a unified optimization framework for learning both the affinity and the segmentation.
- 32, TITLE: Delving Into Egocentric Actions
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Delving_Into_Egocentric_2015_CVPR_paper.html
AUTHORS: Yin Li, Zhefan Ye, James M. Rehg
HIGHLIGHT: We propose to utilize these mid-level egocentric cues for egocentric action recognition. We present a novel set of egocentric features and show how they can be combined with motion and object features.
- 33, TITLE: Latent Trees for Estimating Intensity of Facial Action Units
http://openaccess.thecvf.com/content_cvpr_2015/html/Kaltwang_Latent_Trees_for_2015_CVPR_paper.html
AUTHORS: Sebastian Kaltwang, Sinisa Todorovic, Maja Pantic
HIGHLIGHT: To address uncertainty in detections of facial landmark points, used as out input features, we formulate a new generative framework comprised of a graphical model, inference, and algorithms for learning both model parameters and structure.
- 34, TITLE: Robust Regression on Image Manifolds for Ordered Label Denoising
http://openaccess.thecvf.com/content_cvpr_2015/html/Wu_Robust_Regression_on_2015_CVPR_paper.html
AUTHORS: Hui Wu, Richard Souvenir
HIGHLIGHT: In this paper, we present a computationally efficient and non-parametric method for robust regression on manifolds.
- 35, TITLE: Privacy Preserving Optics for Miniature Vision Sensors
http://openaccess.thecvf.com/content_cvpr_2015/html/Pittaluga_Privacy_Preserving_Optics_2015_CVPR_paper.html
AUTHORS: Francesco Pittaluga, Sanjeev J. Koppal
HIGHLIGHT: We propose to use privacy preserving optics that filter or block sensitive information directly from the incident light-field before sensor measurements are made, adding a new layer of privacy.
- 36, TITLE: Deep Transfer Metric Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Hu_Deep_Transfer_Metric_2015_CVPR_paper.html
AUTHORS: Junlin Hu, Jiwen Lu, Yap-Peng Tan
HIGHLIGHT: In this paper, we propose a new deep transfer metric learning (DTML) method to learn a set of hierarchical nonlinear transformations for cross-domain visual recognition by transferring discriminative knowledge from the labeled source domain to the unlabeled target domain.
- 37, TITLE: Small-Variance Nonparametric Clustering on the Hypersphere
http://openaccess.thecvf.com/content_cvpr_2015/html/Straub_Small-Variance_Nonparametric_Clustering_2015_CVPR_paper.html
AUTHORS: Julian Straub, Trevor Campbell, Jonathan P. How, John W. Fisher III
HIGHLIGHT: Based on the small-variance limit of Bayesian nonparametric von-Mises-Fisher (vMF) mixture distributions, we propose two new flexible and efficient k-means-like clustering algorithms for directional data such as surface normals.
- 38, TITLE: DynamicFusion: Reconstruction and Tracking of Non-Rigid Scenes in Real-Time
http://openaccess.thecvf.com/content_cvpr_2015/html/Newcombe_DynamicFusion_Reconstruction_and_2015_CVPR_paper.html
AUTHORS: Richard A. Newcombe, Dieter Fox, Steven M. Seitz
HIGHLIGHT: We present the first dense SLAM system capable of reconstructing non-rigidly deforming scenes in real-time, by fusing together RGBD scans captured from commodity sensors.
- 39, TITLE: Reliable Patch Trackers: Robust Visual Tracking by Exploiting Reliable Patches
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Reliable_Patch_Trackers_2015_CVPR_paper.html
AUTHORS: Yang Li, Jianke Zhu, Steven C.H. Hoi
HIGHLIGHT: In this paper, we propose a new tracking method, Reliable Patch Trackers (RPT), which attempts to identify and exploit the reliable patches that can be tracked effectively through the whole tracking process.
- 40, TITLE: Predicting Eye Fixations Using Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Predicting_Eye_Fixations_2015_CVPR_paper.html
AUTHORS: Nian Liu, Junwei Han, Dingwen Zhang, Shifeng Wen, Tianming Liu

HIGHLIGHT: In this paper, we propose a novel computational framework to simultaneously learn these two types of visual features from raw image data using a multiresolution convolutional neural network (Mr-CNN) for predicting eye fixations.

41, **TITLE:** Kernel Fusion for Better Image Deblurring
http://openaccess.thecvf.com/content_cvpr_2015/html/Mai_Kernel_Fusion_for_2015_CVPR_paper.html
AUTHORS: Long Mai, Feng Liu
HIGHLIGHT: In this paper, we develop a data-driven approach to kernel fusion that learns how each kernel contributes to the final kernel and how they interact with each other.

42, **TITLE:** Direction Matters: Depth Estimation With a Surface Normal Classifier
http://openaccess.thecvf.com/content_cvpr_2015/html/Hane_Direction_Matters_Depth_2015_CVPR_paper.html
AUTHORS: Christian Hane, Lubor Ladicky, Marc Pollefeys
HIGHLIGHT: In this work we make use of recent advances in data driven classification to improve standard approaches for binocular stereo matching and single view depth estimation.

43, **TITLE:** Modeling Local and Global Deformations in Deep Learning: Epitomic Convolution, Multiple Instance Learning, and Sliding Window Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Papandreou_Modeling_Local_and_2015_CVPR_paper.html
AUTHORS: George Papandreou, Iasonas Kokkinos, Pierre-Andre Savalle
HIGHLIGHT: In this work we show that alternative methods of modeling deformations can improve the accuracy and efficiency of DCNNs.

44, **TITLE:** Grasp Type Revisited: A Modern Perspective on a Classical Feature for Vision
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Grasp_Type_Revisited_2015_CVPR_paper.html
AUTHORS: Yezhou Yang, Comelia Fermuller, Yi Li, Yiannis Aloimonos
HIGHLIGHT: This study shows that the grasp type is a powerful symbolic representation for action understanding, and thus opens new avenues for future research.

45, **TITLE:** Learning Hypergraph-Regularized Attribute Predictors
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_Learning_Hypergraph-Regularized_Attribute_2015_CVPR_paper.html
AUTHORS: Sheng Huang, Mohamed Elhoseiny, Ahmed Elgammal, Dan Yang
HIGHLIGHT: We present a novel attribute learning framework named Hypergraph-based Attribute Predictor (HAP).

46, **TITLE:** A Coarse-to-Fine Model for 3D Pose Estimation and Sub-Category Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Mottaghi_A_Coarse-to-Fine_Model_2015_CVPR_paper.html
AUTHORS: Roozbeh Mottaghi, Yu Xiang, Silvio Savarese
HIGHLIGHT: To jointly model all of these tasks, we propose a coarse-to-fine hierarchical representation, where each level of the hierarchy represents objects at a different level of granularity.

47, **TITLE:** Deep Neural Networks Are Easily Fooled: High Confidence Predictions for Unrecognizable Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Nguyen_Deep_Neural_Networks_2015_CVPR_paper.html
AUTHORS: Anh Nguyen, Jason Yosinski, Jeff Clune
HIGHLIGHT: A recent study revealed that changing an image (e.g. of a lion) in a way imperceptible to humans can cause a DNN to label the image as something else entirely (e.g. mislabeling a lion a library).

48, **TITLE:** Deformable Part Models are Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Girshick_Deformable_Part_Models_2015_CVPR_paper.html
AUTHORS: Ross Girshick, Forrest Iandola, Trevor Darrell, Jitendra Malik
HIGHLIGHT: In this paper, we show that a DPM can be formulated as a CNN, thus providing a synthesis of the two ideas.

49, **TITLE:** Hypercolumns for Object Segmentation and Fine-Grained Localization
http://openaccess.thecvf.com/content_cvpr_2015/html/Hariharan_Hypercolumns_for_Object_2015_CVPR_paper.html
AUTHORS: Bharath Hariharan, Pablo Arbelaez, Ross Girshick, Jitendra Malik
HIGHLIGHT: Recognition algorithms based on convolutional networks (CNNs) typically use the output of the last layer as feature representation.

50, **TITLE:** Mapping Visual Features to Semantic Profiles for Retrieval in Medical Imaging
http://openaccess.thecvf.com/content_cvpr_2015/html/Hofmanninger_Mapping_Visual_Features_2015_CVPR_paper.html
AUTHORS: Johannes Hofmanninger, Georg Langs

HIGHLIGHT: Here we show that re-mapping visual features extracted from medical imaging data based on weak labels that can be found in corresponding radiology reports creates descriptions of local image content capturing clinically relevant information.

51, **TITLE:** Event-Driven Stereo Matching for Real-Time 3D Panoramic Vision
http://openaccess.thecvf.com/content_cvpr_2015/html/Schraml_Event-Driven_Stereo_Matching_2015_CVPR_paper.html
AUTHORS: Stephan Schraml, Ahmed Nabil Belbachir, Horst Bischof
HIGHLIGHT: This paper presents a stereo matching approach for a novel multi-perspective panoramic stereo vision system, making use of asynchronous and non-simultaneous stereo imaging towards real-time 3D 360deg vision.

52, **TITLE:** Graph-Based Simplex Method for Pairwise Energy Minimization With Binary Variables
http://openaccess.thecvf.com/content_cvpr_2015/html/Prusa_Graph-Based_Simplex_Method_2015_CVPR_paper.html
AUTHORS: Daniel Prusa
HIGHLIGHT: We show how the simplex algorithm can be tailored to the linear programming relaxation of pairwise energy minimization with binary variables.

53, **TITLE:** Image Denoising via Adaptive Soft-Thresholding Based on Non-Local Samples
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Image_Denoising_via_2015_CVPR_paper.html
AUTHORS: Hangfan Liu, Ruiqin Xiong, Jian Zhang, Wen Gao
HIGHLIGHT: This paper proposes a new image denoising approach using adaptive signal modeling and adaptive soft-thresholding.
To estimate the expectation and variance parameters for the transform bands of a particular patch, we exploit the non-local correlation of image and collect a set of similar patches as data samples to form the distribution.

54, **TITLE:** 3D Scanning Deformable Objects With a Single RGBD Sensor
http://openaccess.thecvf.com/content_cvpr_2015/html/Dou_3D_Scanning_Deformable_2015_CVPR_paper.html
AUTHORS: Mingsong Dou, Jonathon Taylor, Henry Fuchs, Andrew Fitzgibbon, Shahram Izadi
HIGHLIGHT: We present a 3D scanning system for deformable objects that uses only a single Kinect sensor.

55, **TITLE:** Nested Motion Descriptors
http://openaccess.thecvf.com/content_cvpr_2015/html/Byrne_Nested_Motion_Descriptors_2015_CVPR_paper.html
AUTHORS: Jeffrey Byrne
HIGHLIGHT: We demonstrate that the quadrature steerable pyramid can be used to pool phase, and that pooling phase rather than magnitude provides an estimate of camera motion.

56, **TITLE:** Efficient Minimal-Surface Regularization of Perspective Depth Maps in Variational Stereo
http://openaccess.thecvf.com/content_cvpr_2015/html/Graber_Efficient_Minimal-Surface_Regularization_2015_CVPR_paper.html
AUTHORS: Gottfried Graber, Jonathan Balzer, Stefano Soatto, Thomas Pock
HIGHLIGHT: We propose a method for dense three-dimensional surface reconstruction that leverages the strengths of shape-based approaches, by imposing regularization that respects the geometry of the surface, and the strength of depth-map-based stereo, by avoiding costly computation of surface topology.

57, **TITLE:** Maximum Persistency via Iterative Relaxed Inference With Graphical Models
http://openaccess.thecvf.com/content_cvpr_2015/html/Shekhovtsov_Maximum_Persistency_via_2015_CVPR_paper.html
AUTHORS: Alexander Shekhovtsov, Paul Swoboda, Bogdan Savchynskyy
HIGHLIGHT: We consider MAP-inference for graphical models and propose a novel efficient algorithm for finding persistent labels.

58, **TITLE:** Deep Hierarchical Parsing for Semantic Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Sharma_Deep_Hierarchical_Parsing_2015_CVPR_paper.html
AUTHORS: Abhishek Sharma, Oncel Tuzel, David W. Jacobs
HIGHLIGHT: This paper proposes a learning-based approach to scene parsing inspired by the deep Recursive Context Propagation Network (RCPN).

59, **TITLE:** Designing Deep Networks for Surface Normal Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Designing_Deep_Networks_2015_CVPR_paper.html
AUTHORS: Xiaolong Wang, David Fouhey, Abhinav Gupta
HIGHLIGHT: In this paper, we use CNNs for the task of predicting surface normals from a single image.

60, **TITLE:** Layered RGBD Scene Flow Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Sun_Layered_RGBD_Scene_2015_CVPR_paper.html

AUTHORS: Deqing Sun, Erik B. Sudderth, Hanspeter Pfister
HIGHLIGHT: To better use depth for occlusion reasoning, we propose a layered RGBD scene flow method that jointly solves for the scene segmentation and the motion.

61, TITLE: Hashing With Binary Autoencoders
http://openaccess.thecvf.com/content_cvpr_2015/html/Carreira-Perpinan_Hashing_With_Binary_2015_CVPR_paper.html
AUTHORS: Miguel A. Carreira-Perpinan, Ramin Raziperchikolaie
HIGHLIGHT: Here, we focus on the binary autoencoder model, which seeks to reconstruct an image from the binary code produced by the hash function.

62, TITLE: SUN RGB-D: A RGB-D Scene Understanding Benchmark Suite
http://openaccess.thecvf.com/content_cvpr_2015/html/Song_SUN_RGB-D_A_2015_CVPR_paper.html
AUTHORS: Shuran Song, Samuel P. Lichtenberg, Jianxiong Xiao
HIGHLIGHT: In this paper, we introduce an RGB-D benchmark suite for the goal of advancing the state-of-the-arts in all major scene understanding tasks.

63, TITLE: Collaborative Feature Learning From Social Media
http://openaccess.thecvf.com/content_cvpr_2015/html/Fang_Collaborative_Feature_Learning_2015_CVPR_paper.html
AUTHORS: Chen Fang, Hailin Jin, Jianchao Yang, Zhe Lin
HIGHLIGHT: In this paper, we propose a new data-driven feature learning paradigm which does not rely on category labels. We collect a large-scale image and user behavior dataset from Behance.net.

64, TITLE: Diversity-Induced Multi-View Subspace Clustering
http://openaccess.thecvf.com/content_cvpr_2015/html/Cao_Diversity-Induced_Multi-View_Subspace_2015_CVPR_paper.html
AUTHORS: Xiaochun Cao, Changqing Zhang, Huazhu Fu, Si Liu, Hua Zhang
HIGHLIGHT: In this paper, we focus on how to boost the multi-view clustering by exploring the complementary information among multi-view features.

65, TITLE: Building a Bird Recognition App and Large Scale Dataset With Citizen Scientists: The Fine Print in Fine-Grained Dataset Collection
http://openaccess.thecvf.com/content_cvpr_2015/html/Horn_Building_a_Bird_2015_CVPR_paper.html
AUTHORS: Grant Van Horn, Steve Branson, Ryan Farrell, Scott Haber, Jessie Barry, Panos Ipeirotis, Pietro Perona, Serge Belongie
HIGHLIGHT: We introduce tools and methodologies to collect high quality, large scale fine-grained computer vision datasets using citizen scientists -- crowd annotators who are passionate and knowledgeable about specific domains such as birds or airplanes.

66, TITLE: Early Burst Detection for Memory-Efficient Image Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Shi_Early_Burst_Detection_2015_CVPR_paper.html
AUTHORS: Miaoqing Shi, Yannis Avrithis, Herve Jegou
HIGHLIGHT: In this paper, we propose to explicitly detect the visual bursts in an image at an early stage.

67, TITLE: Indoor Scene Structure Analysis for Single Image Depth Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhuo_Indoor_Scene_Structure_2015_CVPR_paper.html
AUTHORS: Wei Zhuo, Mathieu Salzmann, Xuming He, Miaomiao Liu
HIGHLIGHT: Unlike previous approaches that only reason locally, we propose to exploit the global structure of the scene to estimate its depth.

68, TITLE: Light Field Layer Matting
http://openaccess.thecvf.com/content_cvpr_2015/html/Fiss_Light_Field_Layer_2015_CVPR_paper.html
AUTHORS: Juliet Fiss, Brian Curless, Rick Szeliski
HIGHLIGHT: In this paper, we use matting to separate foreground layers from light fields captured with a plenoptic camera.

69, TITLE: Depth Camera Tracking With Contour Cues
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhou_Depth_Camera_Tracking_2015_CVPR_paper.html
AUTHORS: Qian-Yi Zhou, Vladlen Koltun
HIGHLIGHT: We present an approach for tracking camera pose in real time given a stream of depth images.

70, TITLE: Radial Distortion Homography
http://openaccess.thecvf.com/content_cvpr_2015/html/Kukelova_Radial_Distortion_Homography_2015_CVPR_paper.html
AUTHORS: Zuzana Kukelova, Jan Heller, Martin Bujnak, Tomas Pajdla

HIGHLIGHT: In this paper, we fill the gap among the homography estimation methods by presenting two algorithms for estimating homography between two cameras with different radial distortions.

71, **TITLE:** Efficient Object Localization Using Convolutional Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Tompson_Efficient_Object_Localization_2015_CVPR_paper.html
AUTHORS: Jonathan Tompson, Ross Goroshin, Arjun Jain, Yann LeCun, Christoph Bregler
HIGHLIGHT: We introduce a novel architecture which includes an efficient 'position refinement' model that is trained to estimate the joint offset location within a small region of the image.

72, **TITLE:** Just Noticeable Defocus Blur Detection and Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Shi_Just_Noticeable_Defocus_2015_CVPR_paper.html
AUTHORS: Jianping Shi, Li Xu, Jiaya Jia
HIGHLIGHT: We propose a simple yet effective blur feature via sparse representation and image decomposition.

73, **TITLE:** How Do We Use Our Hands? Discovering a Diverse Set of Common Grasps
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_How_Do_We_2015_CVPR_paper.html
AUTHORS: De-An Huang, Minghuang Ma, Wei-Chiu Ma, Kris M. Kitani
HIGHLIGHT: To learn a diverse set of hand-object interactions, we propose a fast online clustering algorithm based on the Determinantal Point Process (DPP).

74, **TITLE:** Rotating Your Face Using Multi-Task Deep Neural Network
http://openaccess.thecvf.com/content_cvpr_2015/html/Yim_Rotating_Your_Face_2015_CVPR_paper.html
AUTHORS: Junho Yim, Heechul Jung, ByungIn Yoo, Changkyu Choi, Dusik Park, Junmo Kim
HIGHLIGHT: This paper proposes a new deep architecture based on a novel type of multitask learning, which can achieve superior performance in rotating to a target-pose face image from an arbitrary pose and illumination image while preserving identity.

75, **TITLE:** Is Object Localization for Free? - Weakly-Supervised Learning With Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Oquab_Is_Object_Localization_2015_CVPR_paper.html
AUTHORS: Maxime Oquab, Leon Bottou, Ivan Laptev, Josef Sivic
HIGHLIGHT: We describe a weakly supervised convolutional neural network (CNN) for object classification that relies only on image-level labels, yet can learn from cluttered scenes containing multiple objects.

76, **TITLE:** Super-Resolution Person Re-Identification With Semi-Coupled Low-Rank Discriminant Dictionary Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Jing_Super-Resolution_Person_Re-Identification_2015_CVPR_paper.html
AUTHORS: Xiao-Yuan Jing, Xiaoke Zhu, Fei Wu, Xinge You, Qinglong Liu, Dong Yue, Ruimin Hu, Baowen Xu
HIGHLIGHT: In this paper, we propose a semi-coupled low-rank discriminant dictionary learning (SLD²L) approach for SR person re-identification.

77, **TITLE:** Dual Domain Filters Based Texture and Structure Preserving Image Non-Blind Deconvolution
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Dual_Domain_Filters_2015_CVPR_paper.html
AUTHORS: Hang Yang, Ming Zhu, Yan Niu, Yujing Guan, Zhongbo Zhang
HIGHLIGHT: In this work we propose a new approach for efficient image deconvolution based on dual domain filters.

78, **TITLE:** Region-Based Temporally Consistent Video Post-Processing
http://openaccess.thecvf.com/content_cvpr_2015/html/Dong_Region-Based_Temporally_Consistent_2015_CVPR_paper.html
AUTHORS: Xuan Dong, Boyan Bonev, Yu Zhu, Alan L. Yuille
HIGHLIGHT: In this paper, we observe experimentally that many image/video enhancement algorithms enforce a spatially consistent prior on the enhancement.

79, **TITLE:** Global Refinement of Random Forest
http://openaccess.thecvf.com/content_cvpr_2015/html/Ren_Global_Refinement_of_2015_CVPR_paper.html
AUTHORS: Shaoqing Ren, Xudong Cao, Yichen Wei, Jian Sun
HIGHLIGHT: To address the issues, we propose two techniques, global refinement and global pruning, to improve a pre-trained random forest.

80, **TITLE:** Adaptive Region Pooling for Object Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Tsai_Adaptive_Region_Pooling_2015_CVPR_paper.html
AUTHORS: Yi-Hsuan Tsai, Onur C. Hamsici, Ming-Hsuan Yang
HIGHLIGHT: Learning models for object detection is a challenging problem due to the large intra-class variability of objects in appearance, viewpoints, and rigidity.

- 81, TITLE: Discriminative and Consistent Similarities in Instance-Level Multiple Instance Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Rastegari_Discriminative_and_Consistent_2015_CVPR_paper.html
AUTHORS: Mohammad Rastegari, Hannaneh Hajishirzi, Ali Farhadi
HIGHLIGHT: In this paper we present a bottom-up method to instance-level Multiple Instance Learning (MIL) that learns to discover positive instances with globally constrained reasoning about local pairwise similarities.
- 82, TITLE: MUlTi-Store Tracker (MUSTer): A Cognitive Psychology Inspired Approach to Object Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Hong_MUlTi-Store_Tracker_MUSTer_2015_CVPR_paper.html
AUTHORS: Zhibin Hong, Zhe Chen, Chaohui Wang, Xue Mei, Danil Prokhorov, Dacheng Tao
HIGHLIGHT: Inspired by the well-known Atkinson-Shiffrin Memory Model, we propose MUlTi-Store Tracker (MUSTer), a dual-component approach consisting of short- and long-term memory stores to process target appearance memories.
- 83, TITLE: Finding Action Tubes
http://openaccess.thecvf.com/content_cvpr_2015/html/Gkioxari_Finding_Action_Tubes_2015_CVPR_paper.html
AUTHORS: Georgia Gkioxari, Jitendra Malik
HIGHLIGHT: We address the problem of action detection in videos.
- 84, TITLE: Learning a Convolutional Neural Network for Non-Uniform Motion Blur Removal
http://openaccess.thecvf.com/content_cvpr_2015/html/Sun_Learning_a_Convolutional_2015_CVPR_paper.html
AUTHORS: Jian Sun, Wenfei Cao, Zongben Xu, Jean Ponce
HIGHLIGHT: In this paper, we address the problem of estimating and removing non-uniform motion blur from a single blurry image.
- 85, TITLE: Complexity-Adaptive Distance Metric for Object Proposals Generation
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiao_Complexity-Adaptive_Distance_Metric_2015_CVPR_paper.html
AUTHORS: Yao Xiao, Cewu Lu, Efstratios Tsougenis, Yongyi Lu, Chi-Keung Tang
HIGHLIGHT: In this paper, we develop a novel distance metric for grouping two superpixels in high-complexity scenarios.
- 86, TITLE: High-Fidelity Pose and Expression Normalization for Face Recognition in the Wild
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhu_High-Fidelity_Pose_and_2015_CVPR_paper.html
AUTHORS: Xiangyu Zhu, Zhen Lei, Junjie Yan, Dong Yi, Stan Z. Li
HIGHLIGHT: In this paper, we propose a High-fidelity Pose and Expression Normalization (HPEN) method with 3D Morphable Model (3DMM) which can automatically generate a natural face image in frontal pose and neutral expression.
- 87, TITLE: Transformation of Markov Random Fields for Marginal Distribution Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Saito_Transformation_of_Markov_2015_CVPR_paper.html
AUTHORS: Masaki Saito, Takayuki Okatani
HIGHLIGHT: This paper presents a generic method for transforming MRFs for the marginal inference problem.
- 88, TITLE: Sparse Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Sparse_Convolutional_Neural_2015_CVPR_paper.html
AUTHORS: Baoyuan Liu, Min Wang, Hassan Foroosh, Marshall Tappen, Marianna Pinsky
HIGHLIGHT: In this work, we show how to reduce the redundancy in these parameters using a sparse decomposition.
- 89, TITLE: FaceNet: A Unified Embedding for Face Recognition and Clustering
http://openaccess.thecvf.com/content_cvpr_2015/html/Schroff_FaceNet_A_Unified_2015_CVPR_paper.html
AUTHORS: Florian Schroff, Dmitry Kalenichenko, James Philbin
HIGHLIGHT: In this paper we present a system, called FaceNet, that directly learns a mapping from face images to a compact Euclidean space where distances directly correspond to a measure of face similarity.
- 90, TITLE: Cascaded Hand Pose Regression
http://openaccess.thecvf.com/content_cvpr_2015/html/Sun_Cascaded_Hand_Pose_2015_CVPR_paper.html
AUTHORS: Xiao Sun, Yichen Wei, Shuang Liang, Xiaoou Tang, Jian Sun
HIGHLIGHT: We extends the previous 2D cascaded object pose regression work [9] in two aspects so that it works better for 3D articulated objects.
- 91, TITLE: Cross-Scene Crowd Counting via Deep Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Cross-Scene_Crowd_Counting_2015_CVPR_paper.html

AUTHORS: Cong Zhang, Hongsheng Li, Xiaogang Wang, Xiaokang Yang
HIGHLIGHT: To address this problem, we propose a deep convolutional neural network (CNN) for crowd counting, and it is trained alternatively with two related learning objectives, crowd density and crowd count.

92, TITLE: The Application of Two-Level Attention Models in Deep Convolutional Neural Network for Fine-Grained Image Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiao_The_Application_of_2015_CVPR_paper.html
AUTHORS: Tianjun Xiao, Yichong Xu, Kuiyuan Yang, Jiaying Zhang, Yuxin Peng, Zheng Zhang
HIGHLIGHT: In this paper, we propose to apply visual attention to fine-grained classification task using deep neural network.

93, TITLE: End-to-End Integration of a Convolution Network, Deformable Parts Model and Non-Maximum Suppression
http://openaccess.thecvf.com/content_cvpr_2015/html/Wan_End-to-End_Integration_of_2015_CVPR_paper.html
AUTHORS: Li Wan, David Eigen, Rob Fergus
HIGHLIGHT: In this paper, we propose a new model that combines these two approaches, obtaining the advantages of each.

94, TITLE: A Mixed Bag of Emotions: Model, Predict, and Transfer Emotion Distributions
http://openaccess.thecvf.com/content_cvpr_2015/html/Peng_A_Mixed_Bag_2015_CVPR_paper.html
AUTHORS: Kuan-Chuan Peng, Tsuhan Chen, Amir Sadovnik, Andrew C. Gallagher
HIGHLIGHT: This paper explores two new aspects of photos and human emotions.
In addition, we present a new database, Emotion6, containing distributions of emotions.

95, TITLE: Neuroaesthetics in Fashion: Modeling the Perception of Fashionability
http://openaccess.thecvf.com/content_cvpr_2015/html/Simo-Serra_Neuroaesthetics_in_Fashion_2015_CVPR_paper.html
AUTHORS: Edgar Simo-Serra, Sanja Fidler, Francesc Moreno-Noguer, Raquel Urtasun
HIGHLIGHT: In this paper, we analyze the fashion of clothing of a large social website.
We additionally collected a novel heterogeneous dataset with 144,169 user posts containing diverse image, textual and meta information which can be exploited for our task.

96, TITLE: Part-Based Modelling of Compound Scenes From Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Hengel_Part-Based_Modelling_of_2015_CVPR_paper.html
AUTHORS: Anton van den Hengel, Chris Russell, Anthony Dick, John Bastian, Daniel Pooley, Lachlan Fleming, Lourdes Agapito
HIGHLIGHT: We propose a method to recover the structure of a compound scene from multiple silhouettes.

97, TITLE: Efficient Parallel Optimization for Potts Energy With Hierarchical Fusion
http://openaccess.thecvf.com/content_cvpr_2015/html/Veksler_Efficient_Parallel_Optimization_2015_CVPR_paper.html
AUTHORS: Olga Veksler
HIGHLIGHT: We present an efficient parallel method for optimizing Potts energy based on the extension of hierarchical fusion algorithm.

98, TITLE: Pooled Motion Features for First-Person Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Ryoo_Pooled_Motion_Features_2015_CVPR_paper.html
AUTHORS: Michael S. Ryoo, Brandon Rothrock, Larry Matthies
HIGHLIGHT: In this paper, we present a new feature representation for first-person videos.

99, TITLE: Functional Correspondence by Matrix Completion
http://openaccess.thecvf.com/content_cvpr_2015/html/Kovnatsky_Functional_Correspondence_by_2015_CVPR_paper.html
AUTHORS: Artiom Kovnatsky, Michael M. Bronstein, Xavier Bresson, Pierre Vandergheynst
HIGHLIGHT: In this paper, we consider the problem of finding dense intrinsic correspondence between manifolds using the recently introduced functional framework.
We pose the functional correspondence problem as matrix completion with manifold geometric structure and inducing functional localization with the L1 norm.

100, TITLE: Elastic-Net Regularization of Singular Values for Robust Subspace Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Elastic-Net_Regularization_of_2015_CVPR_paper.html
AUTHORS: Eunwoo Kim, Minsik Lee, Songhwai Oh
HIGHLIGHT: In this paper, an elastic-net regularization based low-rank matrix factorization method for subspace learning is proposed.

101, TITLE: Hardware Compliant Approximate Image Codes

http://openaccess.thecvf.com/content_cvpr_2015/html/Kuang_Hardware_Compliant_Approximate_2015_CVPR_paper.html
AUTHORS: Da Kuang, Alex Gittens, Raffay Hamid
HIGHLIGHT: In this work, we propose an approximate locality-constrained encoding scheme that offers significantly better computational efficiency (~40x) than its exact counterpart, with comparable classification accuracy.
We present a thorough set of empirical analyses on multiple standard data-sets, to assess the capability of our encoding scheme for its representational as well as discriminative accuracy.

102, TITLE: Photometric Refinement of Depth Maps for Multi-Albedo Objects
http://openaccess.thecvf.com/content_cvpr_2015/html/Chatterjee_Photometric_Refinement_of_2015_CVPR_paper.html
AUTHORS: Avishek Chatterjee, Venu Madhav Govindu
HIGHLIGHT: In this paper, we propose a novel uncalibrated photometric method for refining depth maps of multi-albedo objects obtained from consumer depth cameras like Kinect.

103, TITLE: Predicting the Future Behavior of a Time-Varying Probability Distribution
http://openaccess.thecvf.com/content_cvpr_2015/html/Lampert_Predicting_the_Future_2015_CVPR_paper.html
AUTHORS: Christoph H. Lampert
HIGHLIGHT: Our main contribution is a method for predicting the next step of the time-varying distribution from a given sequence of sample sets from earlier time steps.

104, TITLE: Classifier Based Graph Construction for Video Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Khoreva_Classifier_Based_Graph_2015_CVPR_paper.html
AUTHORS: Anna Khoreva, Fabio Galasso, Matthias Hein, Bernt Schiele
HIGHLIGHT: We propose to combine features by means of a classifier, use calibrated classifier outputs as edge weights and define the graph topology by edge selection.

105, TITLE: ActivityNet: A Large-Scale Video Benchmark for Human Activity Understanding
http://openaccess.thecvf.com/content_cvpr_2015/html/Heilbron_ActivityNet_A_Large-Scale_2015_CVPR_paper.html
AUTHORS: Fabian Caba Heilbron, Victor Escorcia, Bernard Ghanem, Juan Carlos Niebles
HIGHLIGHT: In this paper, we introduce ActivityNet: a new large-scale video benchmark for human activity understanding.

106, TITLE: Mid-Level Deep Pattern Mining
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Mid-Level_Deep_Pattern_2015_CVPR_paper.html
AUTHORS: Yao Li, Lingqiao Liu, Chunhua Shen, Anton van den Hengel
HIGHLIGHT: In this work, we study this problem from the perspective of pattern mining while relying on the recently popularized Convolutional Neural Networks (CNNs).

107, TITLE: Prediction of Search Targets From Fixations in Open-World Settings
http://openaccess.thecvf.com/content_cvpr_2015/html/Sattar_Prediction_of_Search_2015_CVPR_paper.html
AUTHORS: Hosnieh Sattar, Sabine Muller, Mario Fritz, Andreas Bulling
HIGHLIGHT: In this work we go beyond the state of the art by studying search target prediction in an open-world setting in which we no longer assume that we have fixation data to train for the search targets.
We present a dataset containing fixation data of 18 users searching for natural images from three image categories within synthesised image collages of about 80 images.

108, TITLE: Understanding Image Representations by Measuring Their Equivariance and Equivalence
http://openaccess.thecvf.com/content_cvpr_2015/html/Lenc_Understanding_Image_Representations_2015_CVPR_paper.html
AUTHORS: Karel Lenc, Andrea Vedaldi
HIGHLIGHT: Aiming at filling this gap, we investigate three key mathematical properties of representations: equivariance, invariance, and equivalence.

109, TITLE: Effective Learning-Based Illuminant Estimation Using Simple Features
http://openaccess.thecvf.com/content_cvpr_2015/html/Cheng_Effective_Learning-Based_Illuminant_2015_CVPR_paper.html
AUTHORS: Dongliang Cheng, Brian Price, Scott Cohen, Michael S. Brown
HIGHLIGHT: In this paper, we present a learning-based method based on four simple color features and show how to use this with an ensemble of regression trees to estimate the illumination.

110, TITLE: PAIGE: PAirwise Image Geometry Encoding for Improved Efficiency in Structure-From-Motion
http://openaccess.thecvf.com/content_cvpr_2015/html/Schonberger_PAIGE_PAirwise_Image_2015_CVPR_paper.html
AUTHORS: Johannes L. Schonberger, Alexander C. Berg, Jan-Michael Frahm

HIGHLIGHT: Based on the insights of this evaluation, we propose a learning-based approach, the PAirwise Image Geometry Encoding (PAIGE), to efficiently identify image pairs with scene overlap without the need to perform exhaustive putative matching and geometric verification.

111, **TITLE:** Dense, Accurate Optical Flow Estimation With Piecewise Parametric Model
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Dense_Accurate_Optical_2015_CVPR_paper.html
AUTHORS: Jiaolong Yang, Hongdong Li
HIGHLIGHT: This paper proposes a simple method for estimating dense and accurate optical flow field.

112, **TITLE:** Single-Image Estimation of the Camera Response Function in Near-Lighting
http://openaccess.thecvf.com/content_cvpr_2015/html/Rodrigues_Single-Image_Estimation_of_2015_CVPR_paper.html
AUTHORS: Pedro Rodrigues, Joao P. Barreto
HIGHLIGHT: This paper describes a method to estimate the CRF from a single image of a general two-coloured surface for which the albedo ratio between the coloured regions is known a priori.

113, **TITLE:** Multispectral Pedestrian Detection: Benchmark Dataset and Baseline
http://openaccess.thecvf.com/content_cvpr_2015/html/Hwang_Multispectral_Pedestrian_Detection_2015_CVPR_paper.html
AUTHORS: Soonmin Hwang, Jaesik Park, Namil Kim, Yukyung Choi, In So Kweon
HIGHLIGHT: With the increasing interest in pedestrian detection, pedestrian datasets have also been the subject of research in the past decades.
With this in mind, we propose a multispectral pedestrian dataset which provides well aligned color-thermal image pairs, captured by beam splitter-based special hardware.

114, **TITLE:** A Low-Dimensional Step Pattern Analysis Algorithm With Application to Multimodal Retinal Image Registration
http://openaccess.thecvf.com/content_cvpr_2015/html/Lee_A_Low-Dimensional_Step_2015_CVPR_paper.html
AUTHORS: Jimmy Addison Lee, Jun Cheng, Beng Hai Lee, Ee Ping Ong, Guozhen Xu, Damon Wing Kee Wong, Jiang Liu, Augustinus Laude, Tock Han Lim
HIGHLIGHT: To this end, this paper introduces a novel registration algorithm coined low-dimensional step pattern analysis (LoSPA), tailored to achieve low dimensionality while providing sufficient distinctiveness to effectively align unhealthy multimodal image pairs.

115, **TITLE:** Bilinear Heterogeneous Information Machine for RGB-D Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Kong_Bilinear_Heterogeneous_Information_2015_CVPR_paper.html
AUTHORS: Yu Kong, Yun Fu
HIGHLIGHT: This paper proposes a novel approach to action recognition from RGB-D cameras, in which depth features and RGB visual features are jointly used.

116, **TITLE:** MRF Optimization by Graph Approximation
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_MRF_Optimization_by_2015_CVPR_paper.html
AUTHORS: Wonsik Kim, Kyoung Mu Lee
HIGHLIGHT: In this paper, we propose an application-independent and energy-based approach to generate "good" proposals.

117, **TITLE:** SALICON: Saliency in Context
http://openaccess.thecvf.com/content_cvpr_2015/html/Jiang_SALICON_Saliency_in_2015_CVPR_paper.html
AUTHORS: Ming Jiang, Shengsheng Huang, Juanyong Duan, Qi Zhao
HIGHLIGHT: This paper presents a new method to collect large-scale human data during natural explorations on images.

118, **TITLE:** Weakly Supervised Object Detection With Convex Clustering
http://openaccess.thecvf.com/content_cvpr_2015/html/Bilen_Weakly_Supervised_Object_2015_CVPR_paper.html
AUTHORS: Hakan Bilen, Marco Pedersoli, Tinne Tuytelaars
HIGHLIGHT: In this paper, we help the optimization to get close to the global minimum by enforcing a "soft" similarity between each possible location in the image and a reduced set of "exemplars", or clusters, learned with a convex formulation in the training images.

119, **TITLE:** Interleaved Text/Image Deep Mining on a Very Large-Scale Radiology Database
http://openaccess.thecvf.com/content_cvpr_2015/html/Shin_Interleaved_TextImage_Deep_2015_CVPR_paper.html
AUTHORS: Hoo-Chang Shin, Le Lu, Lauren Kim, Ari Seff, Jianhua Yao, Ronald M. Summers
HIGHLIGHT: We present an interleaved text/image deep learning system to extract and mine the semantic interactions of radiology images and reports from a national research hospital's picture archiving and communication system.

- 120, TITLE: Learning Semantic Relationships for Better Action Retrieval in Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Ramanathan_Learning_Semantic_Relationships_2015_CVPR_paper.html
AUTHORS: Vignesh Ramanathan, Congcong Li, Jia Deng, Wei Han, Zhen Li, Kunlong Gu, Yang Song, Samy Bengio, Charles Rosenberg, Li Fei-Fei
HIGHLIGHT: Hence, we propose a novel neural network framework which jointly extracts the relationship between actions and uses them for training better action retrieval models.
- 121, TITLE: Hierarchical Recurrent Neural Network for Skeleton Based Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Du_Hierarchical_Recurrent_Neural_2015_CVPR_paper.html
AUTHORS: Yong Du, Wei Wang, Liang Wang
HIGHLIGHT: In this paper, considering that recurrent neural network (RNN) can model the long-term contextual information of temporal sequences well, we propose an end-to-end hierarchical RNN for skeleton based action recognition.
- 122, TITLE: Depth and Surface Normal Estimation From Monocular Images Using Regression on Deep Features and Hierarchical CRFs
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Depth_and_Surface_2015_CVPR_paper.html
AUTHORS: Bo Li, Chunhua Shen, Yuchao Dai, Anton van den Hengel, Mingyi He
HIGHLIGHT: This paper tackles this challenging and essentially under-determined problem by regression on deep convolutional neural network (DCNN) features, combined with a post-processing refining step using conditional random fields(CRF).
- 123, TITLE: Discriminative Shape From Shading in Uncalibrated Illumination
http://openaccess.thecvf.com/content_cvpr_2015/html/Richter_Discriminative_Shape_From_2015_CVPR_paper.html
AUTHORS: Stephan R. Richter, Stefan Roth
HIGHLIGHT: To account for their expected spatial regularity, we introduce spatial features, including texon and silhouette features.
- 124, TITLE: Multi-Manifold Deep Metric Learning for Image Set Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Lu_Multi-Manifold_Deep_Metric_2015_CVPR_paper.html
AUTHORS: Jiwen Lu, Gang Wang, Weihong Deng, Pierre Moulin, Jie Zhou
HIGHLIGHT: In this paper, we propose a multi-manifold deep metric learning (MMDML) method for image set classification, which aims to recognize an object of interest from a set of image instances captured from varying viewpoints or under varying illuminations.
- 125, TITLE: Target Identity-Aware Network Flow for Online Multiple Target Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Dehghan_Target_Identity-Aware_Network_2015_CVPR_paper.html
AUTHORS: Afshin Dehghan, Yicong Tian, Philip H. S. Torr, Mubarak Shah
HIGHLIGHT: In this paper we show that multiple object tracking (MOT) can be formulated in a framework, where the detection and data-association are performed simultaneously.
- 126, TITLE: Adaptive As-Natural-As-Possible Image Stitching
http://openaccess.thecvf.com/content_cvpr_2015/html/Lin_Adaptive_As-Natural-As-Possible_Image_2015_CVPR_paper.html
AUTHORS: Chung-Ching Lin, Sharathchandra U. Pankanti, Karthikeyan Natesan Ramamurthy, Aleksandr Y. Aravkin
HIGHLIGHT: In this paper, we propose a novel stitching method, that uses a smooth stitching field over the entire target image, while accounting for all the local transformation variations.
- 127, TITLE: EpicFlow: Edge-Preserving Interpolation of Correspondences for Optical Flow
http://openaccess.thecvf.com/content_cvpr_2015/html/Revaud_EpicFlow_Edge-Preserving_Interpolation_2015_CVPR_paper.html
AUTHORS: Jerome Revaud, Philippe Weinzaepfel, Zaid Harchaoui, Cordelia Schmid
HIGHLIGHT: We propose a novel approach for optical flow estimation, targeted at large displacements with significant occlusions.
- 128, TITLE: Learning Coarse-to-Fine Sparselets for Efficient Object Detection and Scene Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Cheng_Learning_Coarse-to-Fine_Sparselets_2015_CVPR_paper.html
AUTHORS: Gong Cheng, Junwei Han, Lei Guo, Tianming Liu
HIGHLIGHT: Inspired by this framework, in this paper, we propose a novel scheme to train more effective sparselets with a coarse-to-fine framework.
- 129, TITLE: Continuous Visibility Feature
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Continuous_Visibility_Feature_2015_CVPR_paper.html
AUTHORS: Guilin Liu, Yotam Gingold, Jyh-Ming Lien

- HIGHLIGHT:** In this work, we propose a new type of visibility measurement named Continuous Visibility Feature (CVF).
- 130, **TITLE:** FlowWeb: Joint Image Set Alignment by Weaving Consistent, Pixel-Wise Correspondences
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhou_FlowWeb_Joint_Image_2015_CVPR_paper.html
AUTHORS: Tinghui Zhou, Yong Jae Lee, Stella X. Yu, Alyosha A. Efros
HIGHLIGHT: Given a set of poorly aligned images of the same visual concept without any annotations, we propose an algorithm to jointly bring them into pixel-wise correspondence by estimating a FlowWeb representation of the image set.
- 131, **TITLE:** Unsupervised Object Discovery and Localization in the Wild: Part-Based Matching With Bottom-Up Region Proposals
http://openaccess.thecvf.com/content_cvpr_2015/html/Cho_Unsupervised_Object_Discovery_2015_CVPR_paper.html
AUTHORS: Minsu Cho, Suha Kwak, Cordelia Schmid, Jean Ponce
HIGHLIGHT: We tackle the discovery and localization problem using a part-based region matching approach: We use off-the-shelf region proposals to form a set of candidate bounding boxes for objects and object parts.
- 132, **TITLE:** Supervised Descriptor Learning for Multi-Output Regression
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhen_Supervised_Descriptor_Learning_2015_CVPR_paper.html
AUTHORS: Xiantong Zhen, Zhijie Wang, Mengyang Yu, Shuo Li
HIGHLIGHT: In this paper, we propose a novel supervised descriptor learning (SDL) algorithm to establish a discriminative and compact feature representation for multi-output regression.
- 133, **TITLE:** A Statistical Model of Riemannian Metric Variation for Deformable Shape Analysis
http://openaccess.thecvf.com/content_cvpr_2015/html/Gasparetto_A_Statistical_Model_2015_CVPR_paper.html
AUTHORS: Andrea Gasparetto, Andrea Torsello
HIGHLIGHT: In this paper, we propose a novel generative model of the variations of the intrinsic metric of deformable shapes, based on the spectral decomposition of the Laplace-Beltrami operator.
- 134, **TITLE:** Temporally Coherent Interpretations for Long Videos Using Pattern Theory
http://openaccess.thecvf.com/content_cvpr_2015/html/Souza_Temporally_Coherent_Interpretations_2015_CVPR_paper.html
AUTHORS: Fillipe Souza, Sudeep Sarkar, Anuj Srivastava, Jingyong Su
HIGHLIGHT: A recent paper introduced a pattern-theoretic approach that allows construction of flexible graphs for representing interactions of actors with objects and inference is accomplished by an efficient annealing algorithm.
- 135, **TITLE:** Line-Sweep: Cross-Ratio For Wide-Baseline Matching and 3D Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Ramalingam_Line-Sweep_Cross-Ratio_For_2015_CVPR_paper.html
AUTHORS: Srikumar Ramalingam, Michel Antunes, Dan Snow, Gim Hee Lee, Sudeep Pillai
HIGHLIGHT: We propose a method to generate and match new points using virtual lines constructed using pairs of keypoints, which are obtained using standard feature point detectors.
- 136, **TITLE:** Simplified Mirror-Based Camera Pose Computation via Rotation Averaging
http://openaccess.thecvf.com/content_cvpr_2015/html/Long_Simplified_Mirror-Based_Camera_2015_CVPR_paper.html
AUTHORS: Gucan Long, Laurent Kneip, Xin Li, Xiaohu Zhang, Qifeng Yu
HIGHLIGHT: We propose a novel approach to compute the camera pose with respect to a reference object given only mirrored views.
- 137, **TITLE:** On the Relationship Between Visual Attributes and Convolutional Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Escorcia_On_the_Relationship_2015_CVPR_paper.html
AUTHORS: Victor Escorcia, Juan Carlos Niebles, Bernard Ghanem
HIGHLIGHT: We focus on attributes due to their impact on several applications, such as object description, retrieval and mining, and active (and zero-shot) learning.
- 138, **TITLE:** Saliency Detection by Multi-Context Deep Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhao_Saliency_Detection_by_2015_CVPR_paper.html
AUTHORS: Rui Zhao, Wanli Ouyang, Hongsheng Li, Xiaogang Wang
HIGHLIGHT: In this paper, we tackle this problem by proposing a multi-context deep learning framework for salient object detection.
- 139, **TITLE:** DeepShape: Deep Learned Shape Descriptor for 3D Shape Matching and Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Xie_DeepShape_Deep_Learned_2015_CVPR_paper.html
AUTHORS: Jin Xie, Yi Fang, Fan Zhu, Edward Wong

HIGHLIGHT: In this paper, we propose a high-level shape feature learning scheme to extract deformation-insensitive feature via a novel discriminative deep auto-encoder.

- 140, **TITLE:** Bayesian Adaptive Matrix Factorization With Automatic Model Selection
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Bayesian_Adaptive_Matrix_2015_CVPR_paper.html
AUTHORS: Peixian Chen, Naiyan Wang, Nevin L. Zhang, Dit-Yan Yeung
HIGHLIGHT: We address these two issues simultaneously in this paper by proposing a robust non-parametric Bayesian adaptive matrix factorization (AMF) model.
- 141, **TITLE:** Joint Action Recognition and Pose Estimation From Video
http://openaccess.thecvf.com/content_cvpr_2015/html/Nie_Joint_Action_Recognition_2015_CVPR_paper.html
AUTHORS: Bruce Xiaohan Nie, Caiming Xiong, Song-Chun Zhu
HIGHLIGHT: In this paper, we propose a framework to integrate training and testing of the two tasks.
- 142, **TITLE:** Fast Action Proposals for Human Action Detection and Search
http://openaccess.thecvf.com/content_cvpr_2015/html/Yu_Fast_Action_Proposals_2015_CVPR_paper.html
AUTHORS: Gang Yu, Junsong Yuan
HIGHLIGHT: In this paper we target at generating generic action proposals in unconstrained videos.
- 143, **TITLE:** Joint Multi-Feature Spatial Context for Scene Recognition on the Semantic Manifold
http://openaccess.thecvf.com/content_cvpr_2015/html/Song_Joint_Multi-Feature_Spatial_2015_CVPR_paper.html
AUTHORS: Xinhang Song, Shuqiang Jiang, Luis Herranz
HIGHLIGHT: In this paper, we observe that not only global co-occurrences at the image-level are important, but also different regions have different category co-occurrence patterns.
- 144, **TITLE:** Large-Scale Damage Detection Using Satellite Imagery
http://openaccess.thecvf.com/content_cvpr_2015/html/Gueguen_Large-Scale_Damage_Detection_2015_CVPR_paper.html
AUTHORS: Lionel Gueguen, Raffay Hamid
HIGHLIGHT: To address this problem, we present a semi-supervised learning framework for large-scale damage detection in satellite imagery.
- 145, **TITLE:** A Novel Locally Linear KNN Model for Visual Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_A_Novel_Locally_2015_CVPR_paper.html
AUTHORS: Qingfeng Liu, Chengjun Liu
HIGHLIGHT: The theoretical analysis shows that the new representation has the grouping effect of the nearest neighbors, which is able to approximate the "ideal representation".
- 146, **TITLE:** Bilinear Random Projections for Locality-Sensitive Binary Codes
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Bilinear_Random_Projections_2015_CVPR_paper.html
AUTHORS: Saehoon Kim, Seungjin Choi
HIGHLIGHT: In this paper we analyze a bilinear random projection method where feature matrices are transformed to binary codes by two smaller random projection matrices.
- 147, **TITLE:** Combining Local Appearance and Holistic View: Dual-Source Deep Neural Networks for Human Pose Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Fan_Combining_Local_Appearance_2015_CVPR_paper.html
AUTHORS: Xiaochuan Fan, Kang Zheng, Yuewei Lin, Song Wang
HIGHLIGHT: In this paper, we propose to integrate both the local (body) part appearance and the holistic view of each local part for more accurate human pose estimation.
- 148, **TITLE:** Superpixel Segmentation Using Linear Spectral Clustering
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Superpixel_Segmentation_Using_2015_CVPR_paper.html
AUTHORS: Zhengqin Li, Jiansheng Chen
HIGHLIGHT: We present in this paper a superpixel segmentation algorithm called Linear Spectral Clustering (LSC), which produces compact and uniform superpixels with low computational costs.
- 149, **TITLE:** Person Count Localization in Videos From Noisy Foreground and Detections
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Person_Count_Localization_2015_CVPR_paper.html
AUTHORS: Sheng Chen, Alan Fern, Sinisa Todorovic
HIGHLIGHT: This paper formulates and presents a solution to a new problem called person count localization.

- 150, TITLE: Good Features to Track for Visual SLAM
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Good_Features_to_2015_CVPR_paper.html
AUTHORS: Guangcong Zhang, Patricio A. Vela
HIGHLIGHT: This paper describes a method for selecting a subset of features that are of high utility for localization in the SLAM/SfM estimation process.
- 151, TITLE: Discovering States and Transformations in Image Collections
http://openaccess.thecvf.com/content_cvpr_2015/html/Isola_Discovering_States_and_2015_CVPR_paper.html
AUTHORS: Phillip Isola, Joseph J. Lim, Edward H. Adelson
HIGHLIGHT: In this paper, we introduce a dataset of objects, scenes, and materials, each of which is found in a variety of transformed states.
- 152, TITLE: Generalized Deformable Spatial Pyramid: Geometry-Preserving Dense Correspondence Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Hur_Generalized_Deformable_Spatial_2015_CVPR_paper.html
AUTHORS: Junhwa Hur, Hwasup Lim, Changsoo Park, Sang Chul Ahn
HIGHLIGHT: We present a Generalized Deformable Spatial Pyramid (GDSP) matching algorithm for calculating the dense correspondence between a pair of images with large appearance variations.
- 153, TITLE: Classifier Adaptation at Prediction Time
http://openaccess.thecvf.com/content_cvpr_2015/html/Royer_Classifier_Adaptation_at_2015_CVPR_paper.html
AUTHORS: Amelie Royer, Christoph H. Lampert
HIGHLIGHT: We describe a probabilistic method for adapting classifiers at prediction time without having to retrain them.
- 154, TITLE: Phase-Based Frame Interpolation for Video
http://openaccess.thecvf.com/content_cvpr_2015/html/Meyer_Phase-Based_Frame_Interpolation_2015_CVPR_paper.html
AUTHORS: Simone Meyer, Oliver Wang, Henning Zimmer, Max Grosse, Alexander Sorkine-Hornung
HIGHLIGHT: In order to reduce these limitations, we introduce a novel, bounded phase shift correction method that combines phase information across the levels of a multi-scale pyramid.
- 155, TITLE: Matching-CNN Meets KNN: Quasi-Parametric Human Parsing
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Matching-CNN_Meets_KNN_2015_CVPR_paper.html
AUTHORS: Si Liu, Xiaodan Liang, Luoqi Liu, Xiaohui Shen, Jianchao Yang, Changsheng Xu, Liang Lin, Xiaochun Cao, Shuicheng Yan
HIGHLIGHT: In this work, we aim to develop a new solution with the advantages of both methodologies, namely supervision from annotated data and the flexibility to use newly annotated (possibly uncommon) images, and present a quasi-parametric human parsing model.
- 156, TITLE: Absolute Pose for Cameras Under Flat Refractive Interfaces
http://openaccess.thecvf.com/content_cvpr_2015/html/Haner_Absolute_Pose_for_2015_CVPR_paper.html
AUTHORS: Sebastian Haner, Kalle Astrom
HIGHLIGHT: This paper studies the problem of determining the absolute pose of a perspective camera observing a scene through a known refractive plane, the flat boundary between transparent media with different refractive indices.
- 157, TITLE: Protecting Against Screenshots: An Image Processing Approach
http://openaccess.thecvf.com/content_cvpr_2015/html/Chia_Protecting_Against_Screenshots_2015_CVPR_paper.html
AUTHORS: Alex Yong-Sang Chia, Udana Bandara, Xiangyu Wang, Hiromi Hirano
HIGHLIGHT: Motivated by reasons related to data security and privacy, we propose a method to limit meaningful visual contents of a display from being captured by screenshots.
- 158, TITLE: Pose-Conditioned Joint Angle Limits for 3D Human Pose Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Akhter_Pose-Conditioned_Joint_Angle_2015_CVPR_paper.html
AUTHORS: Ijaz Akhter, Michael J. Black
HIGHLIGHT: From this we learn a pose-dependent model of joint limits that forms our prior. First, we collect a motion capture dataset that explores a wide range of human poses.
- 159, TITLE: VisKE: Visual Knowledge Extraction and Question Answering by Visual Verification of Relation Phrases
http://openaccess.thecvf.com/content_cvpr_2015/html/Sadeghi_VisKE_Visual_Knowledge_2015_CVPR_paper.html
AUTHORS: Fereshteh Sadeghi, Santosh K. Kumar Divvala, Ali Farhadi

HIGHLIGHT: In this work, we introduce the problem of visual verification of relation phrases and developed a Visual Knowledge Extraction system called VisKE.

160, **TITLE:** A Graphical Model Approach for Matching Partial Signatures
http://openaccess.thecvf.com/content_cvpr_2015/html/Du_A_Graphical_Model_2015_CVPR_paper.html
AUTHORS: Xianzhi Du, David Doermann, Wael Abd-Almageed
HIGHLIGHT: In this paper, we present a novel partial signature matching method using graphical models.

161, **TITLE:** From Captions to Visual Concepts and Back
http://openaccess.thecvf.com/content_cvpr_2015/html/Fang_From_Captions_to_2015_CVPR_paper.html
AUTHORS: Hao Fang, Saurabh Gupta, Forrest Iandola, Rupesh K. Srivastava, Li Deng, Piotr Dollar, Jianfeng Gao, Xiaodong He, Margaret Mitchell, John C. Platt, C. Lawrence Zitnick, Geoffrey Zweig
HIGHLIGHT: This paper presents a novel approach for automatically generating image descriptions: visual detectors, language models, and multimodal similarity models learnt directly from a dataset of image captions.

162, **TITLE:** Semi-Supervised Low-Rank Mapping Learning for Multi-Label Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Jing_Semi-Supervised_Low-Rank_Mapping_2015_CVPR_paper.html
AUTHORS: Liping Jing, Liu Yang, Jian Yu, Michael K. Ng
HIGHLIGHT: In this paper, we proposed a semi-supervised low-rank mapping (SLRM) model to handle these two challenges.

163, **TITLE:** ConceptLearner: Discovering Visual Concepts From Weakly Labeled Image Collections
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhou_ConceptLearner_Discovering_Visual_2015_CVPR_paper.html
AUTHORS: Bolei Zhou, Vignesh Jagadeesh, Robinson Piramuthu
HIGHLIGHT: In this paper, we propose ConceptLearner, which is a scalable approach to discover visual concepts from weakly labeled image collections.

164, **TITLE:** Computationally Bounded Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Rastegari_Computationally_Bounded_Retrieval_2015_CVPR_paper.html
AUTHORS: Mohammad Rastegari, Cem Keskin, Pushmeet Kohli, Shahram Izadi
HIGHLIGHT: Unlike most hashing methods that sacrifice accuracy for speed, we propose a novel method that improves the speed of high dimensional image retrieval by several orders of magnitude without any significant drop in performance.

165, **TITLE:** Viewpoints and Keypoints
http://openaccess.thecvf.com/content_cvpr_2015/html/Tulsiani_Viewpoints_and_Keypoints_2015_CVPR_paper.html
AUTHORS: Shubham Tulsiani, Jitendra Malik
HIGHLIGHT: We present Convolutional Neural Network based architectures for these and demonstrate that leveraging viewpoint estimates can substantially improve local appearance based keypoint predictions.

166, **TITLE:** Discrete Hyper-Graph Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Yan_Discrete_Hyper-Graph_Matching_2015_CVPR_paper.html
AUTHORS: Junchi Yan, Chao Zhang, Hongyuan Zha, Wei Liu, Xiaokang Yang, Stephen M. Chu
HIGHLIGHT: This paper focuses on the problem of hyper-graph matching, by accounting for both unary and higher-order affinity terms.

167, **TITLE:** Rolling Shutter Motion Deblurring
http://openaccess.thecvf.com/content_cvpr_2015/html/Su_Rolling_Shutter_Motion_2015_CVPR_paper.html
AUTHORS: Shuochen Su, Wolfgang Heidrich
HIGHLIGHT: We propose an approach that delivers sharp and undistorted output given a single rolling shutter motion blurred image.

168, **TITLE:** Learning to Generate Chairs With Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Dosovitskiy_Learning_to_Generate_2015_CVPR_paper.html
AUTHORS: Alexey Dosovitskiy, Jost Tobias Springenberg, Thomas Brox
HIGHLIGHT: We train a generative convolutional neural network which is able to generate images of objects given object type, viewpoint, and color.

169, **TITLE:** Accurate Depth Map Estimation From a Lenslet Light Field Camera
http://openaccess.thecvf.com/content_cvpr_2015/html/Jeon_Accurate_Depth_Map_2015_CVPR_paper.html
AUTHORS: Hae-Gon Jeon, Jaesik Park, Gyeongmin Choe, Jinsun Park, Yunsu Bok, Yu-Wing Tai, In So Kweon
HIGHLIGHT: This paper introduces an algorithm that accurately estimates depth maps using a lenslet light field camera.

- 170, TITLE: Deep Semantic Ranking Based Hashing for Multi-Label Image Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhao_Deep_Semantic_Ranking_2015_CVPR_paper.html
AUTHORS: Fang Zhao, Yongzhen Huang, Liang Wang, Tieniu Tan
HIGHLIGHT: Here we propose a deep semantic ranking based method for learning hash functions that preserve multilevel semantic similarity between multi-label images.
- 171, TITLE: Similarity Learning on an Explicit Polynomial Kernel Feature Map for Person Re-Identification
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Similarity_Learning_on_2015_CVPR_paper.html
AUTHORS: Dapeng Chen, Zejian Yuan, Gang Hua, Nanning Zheng, Jingdong Wang
HIGHLIGHT: In this paper, we address the person re-identification problem, discovering the correct matches for a probe person image from a set of gallery person images.
- 172, TITLE: Learning to Propose Objects
http://openaccess.thecvf.com/content_cvpr_2015/html/Krahenbuhl_Learning_to_Propose_2015_CVPR_paper.html
AUTHORS: Philipp Krahenbuhl, Vladlen Koltun
HIGHLIGHT: We present an approach for highly accurate bottom-up object segmentation.
- 173, TITLE: Basis Mapping Based Boosting for Object Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Ren_Basis_Mapping_Based_2015_CVPR_paper.html
AUTHORS: Haoyu Ren, Ze-Nian Li
HIGHLIGHT: We propose a novel mapping method to improve the training accuracy and efficiency of boosted classifiers for object detection.
- 174, TITLE: Computing the Stereo Matching Cost With a Convolutional Neural Network
http://openaccess.thecvf.com/content_cvpr_2015/html/Zbontar_Computing_the_Stereo_2015_CVPR_paper.html
AUTHORS: Jure Zbontar, Yann LeCun
HIGHLIGHT: We present a method for extracting depth information from a rectified image pair.
- 175, TITLE: Recognize Complex Events From Static Images by Fusing Deep Channels
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiong_Recognize_Complex_Events_2015_CVPR_paper.html
AUTHORS: Yuanjun Xiong, Kai Zhu, Dahua Lin, Xiaoou Tang
HIGHLIGHT: In this paper, we aim to develop an effective method for recognizing events from such images.
- 176, TITLE: Multi-Feature Max-Margin Hierarchical Bayesian Model for Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Multi-Feature_Max-Margin_Hierarchical_2015_CVPR_paper.html
AUTHORS: Shuang Yang, Chunfeng Yuan, Baoxin Wu, Weiming Hu, Fangshi Wang
HIGHLIGHT: In this paper, a multi-feature max-margin hierarchical Bayesian model (M3HBM) is proposed for action recognition.
- 177, TITLE: Model Recommendation: Generating Object Detectors From Few Samples
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Model_Recommendation_Generating_2015_CVPR_paper.html
AUTHORS: Yu-Xiong Wang, Martial Hebert
HIGHLIGHT: In this paper, we explore an approach to generating detectors that is radically different from the conventional way of learning a detector from a large corpus of annotated positive and negative data samples.
- 178, TITLE: A Linear Least-Squares Solution to Elastic Shape-From-Template
http://openaccess.thecvf.com/content_cvpr_2015/html/Malti_A_Linear_Least-Squares_2015_CVPR_paper.html
AUTHORS: Abed Malti, Adrien Bartoli, Richard Hartley
HIGHLIGHT: We propose the first fully linear least-squares SfT method modeling elastic deformations.
- 179, TITLE: Robust Large Scale Monocular Visual SLAM
http://openaccess.thecvf.com/content_cvpr_2015/html/Bourmaud_Robust_Large_Scale_2015_CVPR_paper.html
AUTHORS: Guillaume Bourmaud, Remi Megret
HIGHLIGHT: The contribution of this paper is threefold: 1) We develop a new formalism that builds upon the so called Known Rotation Problem to robustly estimate submaps (parts of the camera trajectory and the unknown environment).
- 180, TITLE: Membership Representation for Detecting Block-Diagonal Structure in Low-Rank or Sparse Subspace Clustering

- http://openaccess.thecvf.com/content_cvpr_2015/html/Lee_Membership_Representation_for_2015_CVPR_paper.html
AUTHORS: Minsik Lee, Jieun Lee, Hyeogjin Lee, Nojun Kwak
HIGHLIGHT: In this paper, we propose an alternative approach to detect block-diagonal structures from these matrices.
- 181, TITLE: Bayesian Inference for Neighborhood Filters With Application in Denoising
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_Bayesian_Inference_for_2015_CVPR_paper.html
AUTHORS: Chao-Tsung Huang
HIGHLIGHT: In this paper, we introduce a unified empirical Bayesian framework to do both directly.
- 182, TITLE: Deep LAC: Deep Localization, Alignment and Classification for Fine-Grained Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Lin_Deep_LAC_Deep_2015_CVPR_paper.html
AUTHORS: Di Lin, Xiaoyong Shen, Cewu Lu, Jiaya Jia
HIGHLIGHT: We propose a fine-grained recognition system that incorporates part localization, alignment, and classification in one deep neural network.
- 183, TITLE: Unconstrained Realtime Facial Performance Capture
http://openaccess.thecvf.com/content_cvpr_2015/html/Hsieh_Unconstrained_Realtime_Facial_2015_CVPR_paper.html
AUTHORS: Pei-Lun Hsieh, Chongyang Ma, Jihun Yu, Hao Li
HIGHLIGHT: We introduce a realtime facial tracking system specifically designed for performance capture in unconstrained settings using a consumer-level RGB-D sensor.
- 184, TITLE: Blind Optical Aberration Correction by Exploring Geometric and Visual Priors
http://openaccess.thecvf.com/content_cvpr_2015/html/Yue_Blind_Optical_Aberration_2015_CVPR_paper.html
AUTHORS: Tao Yue, Jinli Suo, Jue Wang, Xun Cao, Qionghai Dai
HIGHLIGHT: In contrast to previous solutions using hardware compensation or pre-calibration, we propose a computational approach for blind aberration removal from a single image, by exploring various geometric and visual priors.
- 185, TITLE: Ontological Supervision for Fine Grained Classification of Street View Storefronts
http://openaccess.thecvf.com/content_cvpr_2015/html/Movshovitz-Attias_Ontological_Supervision_for_2015_CVPR_paper.html
AUTHORS: Yair Movshovitz-Attias, Qian Yu, Martin C. Stumpe, Vinay Shet, Sacha Arnoud, Liron Yatziv
HIGHLIGHT: In this work, we utilize an ontology of geographical concepts to automatically propagate business category information and create a large, multi label, training data for fine grained storefront classification.
- 186, TITLE: Finding Distractors In Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Fried_Finding_Distractors_In_2015_CVPR_paper.html
AUTHORS: Ohad Fried, Eli Shechtman, Dan B. Goldman, Adam Finkelstein
HIGHLIGHT: We propose a new computer vision task we call "distractor prediction."
In this work we created two datasets of images with user annotations to identify the characteristics of distractors.
- 187, TITLE: From Image-Level to Pixel-Level Labeling With Convolutional Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Pinheiro_From_Image-Level_to_2015_CVPR_paper.html
AUTHORS: Pedro O. Pinheiro, Ronan Collobert
HIGHLIGHT: We propose a Convolutional Neural Network-based model, which is constrained during training to put more weight on pixels which are important for classifying the image.
- 188, TITLE: Semantic Alignment of LiDAR Data at City Scale
http://openaccess.thecvf.com/content_cvpr_2015/html/Yu_Semantic_Alignment_of_2015_CVPR_paper.html
AUTHORS: Fisher Yu, Jianxiong Xiao, Thomas Funkhouser
HIGHLIGHT: This paper describes an automatic algorithm for global alignment of LiDAR data collected with Google Street View cars in urban environments.
- 189, TITLE: Oriented Edge Forests for Boundary Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Hallman_Oriented_Edge_Forests_2015_CVPR_paper.html
AUTHORS: Sam Hallman, Charless C. Fowlkes
HIGHLIGHT: We present a simple, efficient model for learning boundary detection based on a random forest classifier.
- 190, TITLE: Query-Adaptive Late Fusion for Image Search and Person Re-Identification
http://openaccess.thecvf.com/content_cvpr_2015/html/Zheng_Query-Adaptive_Late_Fusion_2015_CVPR_paper.html
AUTHORS: Liang Zheng, Shengjin Wang, Lu Tian, Fei He, Ziqiong Liu, Qi Tian
HIGHLIGHT: Towards this goal, this paper proposes a simple yet effective late fusion method at score level.

191, TITLE: Filtered Feature Channels for Pedestrian Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Filtered_Feature_Channels_2015_CVPR_paper.html
AUTHORS: Shanshan Zhang, Rodrigo Benenson, Bernt Schiele
HIGHLIGHT: Based on this observation we propose a unifying framework and experimentally explore different filter families.

192, TITLE: GRSA: Generalized Range Swap Algorithm for the Efficient Optimization of MRFs
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_GRSA_Generalized_Range_2015_CVPR_paper.html
AUTHORS: Kangwei Liu, Junge Zhang, Peipei Yang, Kaiqi Huang
HIGHLIGHT: In this paper, we propose a generalized range swap algorithm (GRSA) for efficient optimization of MRFs.

193, TITLE: PatchCut: Data-Driven Object Segmentation via Local Shape Transfer
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_PatchCut_Data-Driven_Object_2015_CVPR_paper.html
AUTHORS: Jimei Yang, Brian Price, Scott Cohen, Zhe Lin, Ming-Hsuan Yang
HIGHLIGHT: In this paper, we propose a data-driven algorithm that uses examples to break through these limits.

194, TITLE: Illumination and Reflectance Spectra Separation of a Hyperspectral Image Meets Low-Rank Matrix Factorization
http://openaccess.thecvf.com/content_cvpr_2015/html/Zheng_Illumination_and_Reflectance_2015_CVPR_paper.html
AUTHORS: Yinqiang Zheng, Imari Sato, Yoichi Sato
HIGHLIGHT: We show that this IRSS problem can be modeled into a low-rank matrix factorization problem, and prove that the separation is unique up to an unknown scale under the standard low-dimensionality assumption of reflectance.

195, TITLE: Semantic Part Segmentation Using Compositional Model Combining Shape and Appearance
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Semantic_Part_Segmentation_2015_CVPR_paper.html
AUTHORS: Jianyu Wang, Alan L. Yuille
HIGHLIGHT: In this paper, we study the problem of semantic part segmentation for animals.

196, TITLE: A Discriminative CNN Video Representation for Event Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Xu_A_Discriminative_CNN_2015_CVPR_paper.html
AUTHORS: Zhongwen Xu, Yi Yang, Alex G. Hauptmann
HIGHLIGHT: In this paper, we propose a discriminative video representation for event detection over a large scale video dataset when only limited hardware resources are available.

197, TITLE: 24/7 Place Recognition by View Synthesis
http://openaccess.thecvf.com/content_cvpr_2015/html/Torii_247_Place_Recognition_2015_CVPR_paper.html
AUTHORS: Akihiko Torii, Relja Arandjelovic, Josef Sivic, Masatoshi Okutomi, Tomas Pajdla
HIGHLIGHT: We address the problem of large-scale visual place recognition for situations where the scene undergoes a major change in appearance, for example, due to illumination (day/night), change of seasons, aging, or structural modifications over time such as buildings built or destroyed.
Third, we introduce a new challenging dataset of 1,125 camera-phone query images of Tokyo that contain major changes in illumination (day, sunset, night) as well as structural changes in the scene.

198, TITLE: Understanding Image Virality
http://openaccess.thecvf.com/content_cvpr_2015/html/Deza_Understanding_Image_Virality_2015_CVPR_paper.html
AUTHORS: Arturo Deza, Devi Parikh
HIGHLIGHT: In this paper we study viral images from a computer vision perspective.
We introduce three new image datasets from Reddit, and define a virality score using Reddit metadata.

199, TITLE: Book2Movie: Aligning Video Scenes With Book Chapters
http://openaccess.thecvf.com/content_cvpr_2015/html/Tapaswi_Book2Movie_Aligning_Video_2015_CVPR_paper.html
AUTHORS: Makarand Tapaswi, Martin Bauml, Rainer Stiefelwagen
HIGHLIGHT: In this paper we present a new problem: to align book chapters with video scenes.
We create a new data set involving two popular novel-to-film adaptations with widely varying properties and compare our method against other text-to-video alignment baselines.

200, TITLE: 3D Model-Based Continuous Emotion Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_3D_Model-Based_Continuous_2015_CVPR_paper.html
AUTHORS: Hui Chen, Jiangdong Li, Fengjun Zhang, Yang Li, Hongan Wang

HIGHLIGHT: We propose a real-time 3D model-based method that continuously recognizes dimensional emotions from facial expressions in natural communications.

201, **TITLE:** Learning to Rank in Person Re-Identification With Metric Ensembles
http://openaccess.thecvf.com/content_cvpr_2015/html/Paisitkriangkrai_Learning_to_Rank_2015_CVPR_paper.html

AUTHORS: Sakrapee Paisitkriangkrai, Chunhua Shen, Anton van den Hengel

HIGHLIGHT: We propose an effective structured learning based approach to the problem of person re-identification which outperforms the current state-of-the-art on most benchmark data sets evaluated.

202, **TITLE:** Making Better Use of Edges via Perceptual Grouping
http://openaccess.thecvf.com/content_cvpr_2015/html/Qi_Making_Better_Use_2015_CVPR_paper.html

AUTHORS: Yonggang Qi, Yi-Zhe Song, Tao Xiang, Honggang Zhang, Timothy Hospedales, Yi Li, Jun Guo

HIGHLIGHT: We propose a perceptual grouping framework that organizes image edges into meaningful structures and demonstrate its usefulness on various computer vision tasks.

203, **TITLE:** Real-Time Joint Estimation of Camera Orientation and Vanishing Points
http://openaccess.thecvf.com/content_cvpr_2015/html/Lee_Real-Time_Joint_Estimation_2015_CVPR_paper.html

AUTHORS: Jeong-Kyun Lee, Kuk-Jin Yoon

HIGHLIGHT: To overcome these limitations, we propose a novel method that jointly estimates the VPs and camera orientation based on sequential Bayesian filtering.

204, **TITLE:** Sketch-Based 3D Shape Retrieval Using Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Sketch-Based_3D_Shape_2015_CVPR_paper.html

AUTHORS: Fang Wang, Le Kang, Yi Li

HIGHLIGHT: Instead of relying on the elusive concept of "best views" and the hand-crafted features, we propose to define our views using a minimalism approach and learn features for both sketches and views.

205, **TITLE:** Salient Object Detection via Bootstrap Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Tong_Salient_Object_Detection_2015_CVPR_paper.html

AUTHORS: Na Tong, Huchuan Lu, Xiang Ruan, Ming-Hsuan Yang

HIGHLIGHT: We propose a bootstrap learning algorithm for salient object detection in which both weak and strong models are exploited.

206, **TITLE:** Towards Open World Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Bendale_Towards_Open_World_2015_CVPR_paper.html

AUTHORS: Abhijit Bendale, Terrance Boulton

HIGHLIGHT: To handle these operational issues, we present the problem of Open World recognition and formally define it.

207, **TITLE:** Data-Driven 3D Voxel Patterns for Object Category Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiang_Data-Driven_3D_Voxel_2015_CVPR_paper.html

AUTHORS: Yu Xiang, Wongun Choi, Yuanqing Lin, Silvio Savarese

HIGHLIGHT: In this paper, we propose a novel object representation, 3D Voxel Pattern (3DVP), that jointly encodes the key properties of objects including appearance, 3D shape, viewpoint, occlusion and truncation.

208, **TITLE:** 3D ShapeNets: A Deep Representation for Volumetric Shapes
http://openaccess.thecvf.com/content_cvpr_2015/html/Wu_3D_ShapeNets_A_2015_CVPR_paper.html

AUTHORS: Zhirong Wu, Shuran Song, Aditya Khosla, Fisher Yu, Linguang Zhang, Xiaoou Tang, Jianxiong Xiao

HIGHLIGHT: To this end, we propose to represent a geometric 3D shape as a probability distribution of binary variables on a 3D voxel grid, using a Convolutional Deep Belief Network.

209, **TITLE:** Robust Image Alignment With Multiple Feature Descriptors and Matching-Guided Neighborhoods
http://openaccess.thecvf.com/content_cvpr_2015/html/Hsu_Robust_Image_Alignment_2015_CVPR_paper.html

AUTHORS: Kuang-Jui Hsu, Yen-Yu Lin, Yung-Yu Chuang

HIGHLIGHT: This paper addresses two issues hindering the advances in accurate image alignment.

210, **TITLE:** Pushing the Frontiers of Unconstrained Face Detection and Recognition: IARPA Janus Benchmark A
http://openaccess.thecvf.com/content_cvpr_2015/html/Klare_Pushing_the_Frontiers_2015_CVPR_paper.html

AUTHORS: Brendan F. Klare, Ben Klein, Emma Taborsky, Austin Blanton, Jordan Cheney, Kristen Allen, Patrick Grother, Alan Mah, Anil K. Jain

HIGHLIGHT: This paper introduces the IARPA Janus Benchmark A (IJB-A), a publicly available media in the wild dataset containing 500 subjects with manually localized face images.

211, **TITLE:** Depth From Shading, Defocus, and Correspondence Using Light-Field Angular Coherence
http://openaccess.thecvf.com/content_cvpr_2015/html/Tao_Depth_From_Shading_2015_CVPR_paper.html
AUTHORS: Michael W. Tao, Pratul P. Srinivasan, Jitendra Malik, Szymon Rusinkiewicz, Ravi Ramamoorthi
HIGHLIGHT: We propose a new framework that uses angular coherence to optimize depth and shading.

212, **TITLE:** New Insights Into Laplacian Similarity Search
http://openaccess.thecvf.com/content_cvpr_2015/html/Wu_New_Insights_Into_2015_CVPR_paper.html
AUTHORS: Xiao-Ming Wu, Zhenguo Li, Shih-Fu Chang
HIGHLIGHT: In particular, we introduce a family of similarity metrics in the form of $(L + \alpha \Lambda)^{-1}$, where L is the graph Laplacian, Λ is a positive diagonal matrix acting as a regularizer, and α is a positive balancing factor.

213, **TITLE:** Feature-Independent Context Estimation for Automatic Image Annotation
http://openaccess.thecvf.com/content_cvpr_2015/html/Tariq_Feature-Independent_Context_Estimation_2015_CVPR_paper.html
AUTHORS: Amara Tariq, Hassan Foroosh
HIGHLIGHT: In this paper, we present an unsupervised feature-independent quantification of the context of the image through tensor decomposition.

214, **TITLE:** Category-Specific Object Reconstruction From a Single Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Kar_Category-Specific_Object_Reconstruction_2015_CVPR_paper.html
AUTHORS: Abhishek Kar, Shubham Tulsiani, Joao Carreira, Jitendra Malik
HIGHLIGHT: This is the main message of this paper, which introduces an automated pipeline with pixels as inputs and 3D surfaces of various rigid categories as outputs in images of realistic scenes.

215, **TITLE:** Active Sample Selection and Correction Propagation on a Gradually-Augmented Graph
http://openaccess.thecvf.com/content_cvpr_2015/html/Su_Active_Sample_Selection_2015_CVPR_paper.html
AUTHORS: Hang Su, Zhaozheng Yin, Takeo Kanade, Seungil Huh
HIGHLIGHT: To address this issue with minimal human interventions, we propose (i) a sample selection criterion used for `query` of informative samples by minimizing the expected prediction error, and (ii) an efficient `correction` method that propagates human correction on selected samples over a `graph` to unlabeled samples without rebuilding the affinity graph.

216, **TITLE:** Efficient and Accurate Approximations of Nonlinear Convolutional Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Efficient_and_Accurate_2015_CVPR_paper.html
AUTHORS: Xiangyu Zhang, Jianhua Zou, Xiang Ming, Kaiming He, Jian Sun
HIGHLIGHT: This paper aims to accelerate the test-time computation of deep convolutional neural networks (CNNs).

217, **TITLE:** Ranking and Retrieval of Image Sequences From Multiple Paragraph Queries
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Ranking_and_Retrieval_2015_CVPR_paper.html
AUTHORS: Gunhee Kim, Seungwhan Moon, Leonid Sigal
HIGHLIGHT: We propose a method to rank and retrieve image sequences from a natural language text query, consisting of multiple sentences or paragraphs.

218, **TITLE:** Casual Stereoscopic Panorama Stitching
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Casual_Stereoscopic_Panorama_2015_CVPR_paper.html
AUTHORS: Fan Zhang, Feng Liu
HIGHLIGHT: This paper presents a method for stitching stereoscopic panoramas from stereo images casually taken using a stereo camera.

219, **TITLE:** Superpixel Meshes for Fast Edge-Preserving Surface Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Bodis-Szomoru_Superpixel_Meshes_for_2015_CVPR_paper.html
AUTHORS: Andras Bodis-Szomoru, Hayko Riemenschneider, Luc Van Gool
HIGHLIGHT: In this work, we propose a novel surface reconstruction method based on image edges, superpixels and second-order smoothness constraints, producing meshes comparable to classic MVS surfaces in quality but orders of magnitudes faster.

220, **TITLE:** Best-Buddies Similarity for Robust Template Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Dekel_Best-Buddies_Similarity_for_2015_CVPR_paper.html
AUTHORS: Tali Dekel, Shaul Oron, Michael Rubinstein, Shai Avidan, William T. Freeman

- HIGHLIGHT: We propose a novel method for template matching in unconstrained environments.
- 221, TITLE: Superdifferential Cuts for Binary Energies
http://openaccess.thecvf.com/content_cvpr_2015/html/Taniai_Superdifferential_Cuts_for_2015_CVPR_paper.html
AUTHORS: Tatsunori Taniai, Yasuyuki Matsushita, Takeshi Naemura
HIGHLIGHT: We propose an efficient and general purpose energy optimization method for binary variable energies used in various low-level vision tasks.
- 222, TITLE: The S-Hock Dataset: Analyzing Crowds at the Stadium
http://openaccess.thecvf.com/content_cvpr_2015/html/Conigliaro_The_S-Hock_Dataset_2015_CVPR_paper.html
AUTHORS: Davide Conigliaro, Paolo Rota, Francesco Setti, Chiara Bassetti, Nicola Conci, Nicu Sebe, Marco Cristani
HIGHLIGHT: In this paper we adopt a taxonomy that is widely accepted in sociology, focusing on a particular category, the spectator crowd, which is formed by people "interested in watching something specific that they came to see". In particular, we propose a novel dataset, the Spectators Hockey (S-Hock), which deals with 4 hockey matches during an international tournament.
- 223, TITLE: Discriminant Analysis on Riemannian Manifold of Gaussian Distributions for Face Recognition With Image Sets
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Discriminant_Analysis_on_2015_CVPR_paper.html
AUTHORS: Wen Wang, Ruiping Wang, Zhiwu Huang, Shiguang Shan, Xilin Chen
HIGHLIGHT: This paper presents a method named Discriminant Analysis on Riemannian manifold of Gaussian distributions (DARG) to solve the problem of face recognition with image sets.
- 224, TITLE: Texture Representations for Image and Video Synthesis
http://openaccess.thecvf.com/content_cvpr_2015/html/Georgiadis_Texture_Representations_for_2015_CVPR_paper.html
AUTHORS: Georgios Georgiadis, Alessandro Chiuso, Stefano Soatto
HIGHLIGHT: We focus on how to characterize such textures and automatically retrieve them.
- 225, TITLE: Shadow Optimization From Structured Deep Edge Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Shen_Shadow_Optimization_From_2015_CVPR_paper.html
AUTHORS: Li Shen, Teck Wee Chua, Karianto Leman
HIGHLIGHT: We present a novel learning-based framework for shadow detection from a single image.
- 226, TITLE: Total Variation Regularization of Shape Signals
http://openaccess.thecvf.com/content_cvpr_2015/html/Baust_Total_Variation_Regularization_2015_CVPR_paper.html
AUTHORS: Maximilian Baust, Laurent Demaret, Martin Storath, Nassir Navab, Andreas Weinmann
HIGHLIGHT: This paper introduces the concept of shape signals, i.e., series of shapes which have a natural temporal or spatial ordering, as well as a variational formulation for the regularization of these signals.
- 227, TITLE: Learning Similarity Metrics for Dynamic Scene Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Teney_Learning_Similarity_Metrics_2015_CVPR_paper.html
AUTHORS: Damien Teney, Matthew Brown, Dmitry Kit, Peter Hall
HIGHLIGHT: This paper addresses the segmentation of videos with arbitrary motion, including dynamic textures, using novel motion features and a supervised learning approach.
- 228, TITLE: Subspace Clustering by Mixture of Gaussian Regression
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Subspace_Clustering_by_2015_CVPR_paper.html
AUTHORS: Baohua Li, Ying Zhang, Zhouchen Lin, Huchuan Lu
HIGHLIGHT: Therefore, we propose Mixture of Gaussian Regression (MoG Regression) for subspace clustering by modeling noise as a Mixture of Gaussians (MoG).
- 229, TITLE: DASC: Dense Adaptive Self-Correlation Descriptor for Multi-Modal and Multi-Spectral Correspondence
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_DASC_Dense_Adaptive_2015_CVPR_paper.html
AUTHORS: Seungryong Kim, Dongbo Min, Bumsub Ham, Seungchul Ryu, Minh N. Do, Kwanghoon Sohn
HIGHLIGHT: In this paper, we propose a new dense matching descriptor, called dense adaptive self-correlation (DASC), to effectively address this kind of matching scenarios.
- 230, TITLE: In Defense of Color-Based Model-Free Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Possegger_In_Defense_of_2015_CVPR_paper.html
AUTHORS: Horst Possegger, Thomas Mauthner, Horst Bischof

- HIGHLIGHT: In this paper, we address the problem of model-free online object tracking based on color representations.
- 231, TITLE: Best of Both Worlds: Human-Machine Collaboration for Object Annotation
http://openaccess.thecvf.com/content_cvpr_2015/html/Russakovsky_Best_of_Both_2015_CVPR_paper.html
AUTHORS: Olga Russakovsky, Li-Jia Li, Li Fei-Fei
HIGHLIGHT: Our model seamlessly integrates multiple computer vision models with multiple sources of human input in a Markov Decision Process.
- 232, TITLE: Robust Multiple Homography Estimation: An Ill-Solved Problem
http://openaccess.thecvf.com/content_cvpr_2015/html/Szpak_Robust_Multiple_Homography_2015_CVPR_paper.html
AUTHORS: Zygmunt L. Szpak, Wojciech Chojnacki, Anton van den Hengel
HIGHLIGHT: We demonstrate that the estimation of multiple homographies is an ill-solved problem by deriving new constraints that a set of mutually compatible homographies must satisfy, and by showing that homographies estimated with prevailing methods fail to satisfy the requisite constraints on real-world data.
- 233, TITLE: Semi-Supervised Domain Adaptation With Subspace Learning for Visual Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Yao_Semi-Supervised_Domain_Adaptation_2015_CVPR_paper.html
AUTHORS: Ting Yao, Yingwei Pan, Chong-Wah Ngo, Houqiang Li, Tao Mei
HIGHLIGHT: This paper proposes a novel domain adaptation framework, named Semi-supervised Domain Adaptation with Subspace Learning (SDASL), which jointly explores invariant low-dimensional structures across domains to correct data distribution mismatch and leverages available unlabeled target examples to exploit the underlying intrinsic information in the target domain.
- 234, TITLE: Articulated Motion Discovery Using Pairs of Trajectories
http://openaccess.thecvf.com/content_cvpr_2015/html/Pero_Articulated_Motion_Discovery_2015_CVPR_paper.html
AUTHORS: Luca Del Pero, Susanna Ricco, Rahul Sukthankar, Vittorio Ferrari
HIGHLIGHT: We propose an unsupervised approach for discovering characteristic motion patterns in videos of highly articulated objects performing natural, unscripted behaviors, such as tigers in the wild.
- 235, TITLE: A Solution for Multi-Alignment by Transformation Synchronisation
http://openaccess.thecvf.com/content_cvpr_2015/html/Bernard_A_Solution_for_2015_CVPR_paper.html
AUTHORS: Florian Bernard, Johan Thunberg, Peter Gemmar, Frank Hertel, Andreas Husch, Jorge Goncalves
HIGHLIGHT: Based on the observation that the underlying noise-free transformations can be retrieved from the null space of a matrix that can directly be obtained from pairwise alignments, this paper presents a novel method for the synchronisation of pairwise transformations such that they are transitively consistent.
- 236, TITLE: A Convex Optimization Approach to Robust Fundamental Matrix Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Cheng_A_Convex_Optimization_2015_CVPR_paper.html
AUTHORS: Yongfang Cheng, Jose A. Lopez, Octavia Camps, Mario Sznaiier
HIGHLIGHT: This paper considers the problem of recovering a subspace arrangement from noisy samples, potentially corrupted with outliers.
- 237, TITLE: Simultaneous Pose and Non-Rigid Shape With Particle Dynamics
http://openaccess.thecvf.com/content_cvpr_2015/html/Agudo_Simultaneous_Pose_and_2015_CVPR_paper.html
AUTHORS: Antonio Agudo, Francesc Moreno-Noguer
HIGHLIGHT: In this paper, we propose a sequential solution to simultaneously estimate camera pose and non-rigid 3D shape from a monocular video.
- 238, TITLE: Semi-Supervised Learning With Explicit Relationship Regularization
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Semi-Supervised_Learning_With_2015_CVPR_paper.html
AUTHORS: Kwang In Kim, James Tompkin, Hanspeter Pfister, Christian Theobalt
HIGHLIGHT: In experiments, we demonstrate that this significantly improves the performance of state-of-the-art algorithms in semi-supervised classification and in spectral data embedding for constrained clustering and dimensionality reduction.
- 239, TITLE: Person Re-Identification by Local Maximal Occurrence Representation and Metric Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Liao_Person_Re-Identification_by_2015_CVPR_paper.html
AUTHORS: Shengcai Liao, Yang Hu, Xiangyu Zhu, Stan Z. Li
HIGHLIGHT: In this paper, we propose an effective feature representation called Local Maximal Occurrence (LOMO), and a subspace and metric learning method called Cross-view Quadratic Discriminant Analysis (XQDA).
- 240, TITLE: Joint Patch and Multi-Label Learning for Facial Action Unit Detection

- http://openaccess.thecvf.com/content_cvpr_2015/html/Zhao_Joint_Patch_and_2015_CVPR_paper.html
AUTHORS: Kaili Zhao, Wen-Sheng Chu, Fernando De la Torre, Jeffrey F. Cohn, Honggang Zhang
HIGHLIGHT: We introduce joint-patch and multi-label learning (JPML) to address these issues.
- 241, TITLE: Real-Time Visual Analysis of Microvascular Blood Flow for Critical Care
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Real-Time_Visual_Analysis_2015_CVPR_paper.html
AUTHORS: Chao Liu, Hernando Gomez, Srinivasa Narasimhan, Artur Dubrawski, Michael R. Pinsky, Brian Zuckerbraun
HIGHLIGHT: In this paper, we present a framework that automates the analysis process.
- 242, TITLE: JOTS: Joint Online Tracking and Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Wen_JOTS_Joint_Online_2015_CVPR_paper.html
AUTHORS: Longyin Wen, Dawei Du, Zhen Lei, Stan Z. Li, Ming-Hsuan Yang
HIGHLIGHT: We present a novel Joint Online Tracking and Segmentation (JOTS) algorithm which integrates the multi-part tracking and segmentation into a unified energy optimization framework to handle the video segmentation task.
- 243, TITLE: Gaze-Enabled Egocentric Video Summarization via Constrained Submodular Maximization
http://openaccess.thecvf.com/content_cvpr_2015/html/Xu_Gaze-Enabled_Egocentric_Video_2015_CVPR_paper.html
AUTHORS: Jia Xu, Lopamudra Mukherjee, Yin Li, Jamieson Warner, James M. Rehg, Vikas Singh
HIGHLIGHT: In this paper, we demonstrate that using gaze tracking information (such as fixation and saccade) significantly helps the summarization task.
- 244, TITLE: Sparse Depth Super Resolution
http://openaccess.thecvf.com/content_cvpr_2015/html/Lu_Sparse_Depth_Super_2015_CVPR_paper.html
AUTHORS: Jiajun Lu, David Forsyth
HIGHLIGHT: We describe a method to produce detailed high resolution depth maps from aggressively subsampled depth measurements.
- 245, TITLE: Efficient Illuminant Estimation for Color Constancy Using Grey Pixels
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Efficient_Illuminant_Estimation_2015_CVPR_paper.html
AUTHORS: Kai-Fu Yang, Shao-Bing Gao, Yong-Jie Li
HIGHLIGHT: Instead of using the grey world or grey edge assumptions, we propose in this paper a novel method for illuminant estimation by using the information of grey pixels detected in a given color-biased image.
- 246, TITLE: Can Humans Fly? Action Understanding With Multiple Classes of Actors
http://openaccess.thecvf.com/content_cvpr_2015/html/Xu_Can_Humans_Fly_2015_CVPR_paper.html
AUTHORS: Chenliang Xu, Shao-Hang Hsieh, Caiming Xiong, Jason J. Corso
HIGHLIGHT: We formulate the general actor-action understanding problem and instantiate it at various granularities: both video-level single- and multiple-label actor-action recognition and pixel-level actor-action semantic segmentation. To start with the problem, we collect a dataset of 3782 videos from YouTube and label both pixel-level actors and actions in each video.
- 247, TITLE: Reweighted Laplace Prior Based Hyperspectral Compressive Sensing for Unknown Sparsity
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Reweighted_Laplace_Prior_2015_CVPR_paper.html
AUTHORS: Lei Zhang, Wei Wei, Yanning Zhang, Chunna Tian, Fei Li
HIGHLIGHT: To address this problem, a novel reweighted Laplace prior based hyperspectral compressive sensing method is proposed in this study.
- 248, TITLE: Class Consistent Multi-Modal Fusion With Binary Features
http://openaccess.thecvf.com/content_cvpr_2015/html/Shrivastava_Class_Consistent_Multi-Modal_2015_CVPR_paper.html
AUTHORS: Ashish Shrivastava, Mohammad Rastegari, Sumit Shekhar, Rama Chellappa, Larry S. Davis
HIGHLIGHT: We describe an algorithm that perturbs test features so that all modalities predict the same class.
- 249, TITLE: R6P - Rolling Shutter Absolute Camera Pose
http://openaccess.thecvf.com/content_cvpr_2015/html/Albl_R6P_-_Rolling_2015_CVPR_paper.html
AUTHORS: Cenek Albl, Zuzana Kukelova, Tomas Pajdla
HIGHLIGHT: We present a minimal, non-iterative solution to the absolute pose problem for images from rolling shutter cameras.
- 250, TITLE: Embedded Phase Shifting: Robust Phase Shifting With Embedded Signals
http://openaccess.thecvf.com/content_cvpr_2015/html/Moreno_Embedded_Phase_Shifting_2015_CVPR_paper.html

- AUTHORS: Daniel Moreno, Kilho Son, Gabriel Taubin
HIGHLIGHT: We introduce Embedded PS, a new robust and accurate phase shifting algorithm for 3D scanning.
- 251, TITLE: Shape and Light Directions From Shading and Polarization
http://openaccess.thecvf.com/content_cvpr_2015/html/Thanh_Shape_and_Light_2015_CVPR_paper.html
AUTHORS: Trung Ngo Thanh, Hajime Nagahara, Rin-ichiro Taniguchi
HIGHLIGHT: We introduce a method to recover the shape of a smooth dielectric object from polarization images taken with a light source from different directions.
- 252, TITLE: 3D Deep Shape Descriptor
http://openaccess.thecvf.com/content_cvpr_2015/html/Fang_3D_Deep_Shape_2015_CVPR_paper.html
AUTHORS: Yi Fang, Jin Xie, Guoxian Dai, Meng Wang, Fan Zhu, Tiantian Xu, Edward Wong
HIGHLIGHT: Specifically, the proposed approach developed novel techniques to extract concise but geometrically informative shape descriptor, new definitions of Eigen-shape descriptor and Fisher-shape descriptor to guide the training strategy for deep neural network, and deep shape descriptor with discriminative capacity of maximizing the inter-class margin while minimizing the intra-class variance.
- 253, TITLE: Cross-Age Face Verification by Coordinating With Cross-Face Age Verification
http://openaccess.thecvf.com/content_cvpr_2015/html/Du_Cross-Age_Face_Verification_2015_CVPR_paper.html
AUTHORS: Liang Du, Haibin Ling
HIGHLIGHT: In this paper we present a novel framework for cross-age face verification (FV) by seeking help from its "competitor" named cross-face age verification (AV), i.e., deciding whether two face photos are taken at similar ages.
- 254, TITLE: Beyond Mahalanobis Metric: Cayley-Klein Metric Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Bi_Beyond_Mahalanobis_Metric_2015_CVPR_paper.html
AUTHORS: Yanhong Bi, Bin Fan, Fuchao Wu
HIGHLIGHT: In this paper, we introduce it into the computer vision community as a powerful metric and an alternative to the widely studied Mahalanobis metric.
- 255, TITLE: From Dictionary of Visual Words to Subspaces: Locality-Constrained Affine Subspace Coding
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_From_Dictionary_of_2015_CVPR_paper.html
AUTHORS: Peihua Li, Xiaoxiao Lu, Qilong Wang
HIGHLIGHT: To approach this problem, we propose a novel feature coding method called locality-constrained affine subspace coding (LASC).
- 256, TITLE: FPA-CS: Focal Plane Array-Based Compressive Imaging in Short-Wave Infrared
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_FPA-CS_Focal_Plane_2015_CVPR_paper.html
AUTHORS: Huaijin Chen, M. Salman Asif, Aswin C. Sankaranarayanan, Ashok Veeraraghavan
HIGHLIGHT: We present a focal plane array-based compressive sensing (FPA-CS) architecture that achieves high spatial and temporal resolutions.
- 257, TITLE: BOLD - Binary Online Learned Descriptor For Efficient Image Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Balntas_BOLD_-_Binary_2015_CVPR_paper.html
AUTHORS: Vassileios Balntas, Lilian Tang, Krystian Mikolajczyk
HIGHLIGHT: In this paper we propose a novel approach to generate a binary descriptor optimized for each image patch independently.
- 258, TITLE: Defocus Deblurring and Superresolution for Time-of-Flight Depth Cameras
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiao_Defocus_Deblurring_and_2015_CVPR_paper.html
AUTHORS: Lei Xiao, Felix Heide, Matthew O'Toole, Andreas Kolb, Matthias B. Hullin, Kyros Kutulakos, Wolfgang Heidrich
HIGHLIGHT: In this paper we analyze the image formation model for blurred ToF images.
- 259, TITLE: Burst Deblurring: Removing Camera Shake Through Fourier Burst Accumulation
http://openaccess.thecvf.com/content_cvpr_2015/html/Delbracio_Burst_Deblurring_Removing_2015_CVPR_paper.html
AUTHORS: Mauricio Delbracio, Guillermo Sapiro
HIGHLIGHT: Numerous recent approaches attempt to remove image blur due to camera shake, either with one or multiple input images, by explicitly solving an inverse and inherently ill-posed deconvolution problem.
- 260, TITLE: SOM: Semantic Obviousness Metric for Image Quality Assessment

- http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_SOM_Semantic_Obviousness_2015_CVPR_paper.html
AUTHORS: Peng Zhang, Wengang Zhou, Lei Wu, Houqiang Li
HIGHLIGHT: In this paper we propose a new no-reference (NR) image quality assessment (IQA) framework based on semantic obviousness.
- 261, TITLE: DeepID-Net: Deformable Deep Convolutional Neural Networks for Object Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Ouyang_DeepID-Net_Deformable_Deep_2015_CVPR_paper.html
AUTHORS: Wanli Ouyang, Xiaogang Wang, Xingyu Zeng, Shi Qiu, Ping Luo, Yonglong Tian, Hongsheng Li, Shuo Yang, Zhe Wang, Chen-Change Loy, Xiaoou Tang
HIGHLIGHT: In this paper, we propose deformable deep convolutional neural networks for generic object detection.
- 262, TITLE: Efficient Globally Optimal Consensus Maximisation With Tree Search
http://openaccess.thecvf.com/content_cvpr_2015/html/Chin_Efficient_Globally_Optimal_2015_CVPR_paper.html
AUTHORS: Tat-Jun Chin, Pulak Purkait, Anders Eriksson, David Suter
HIGHLIGHT: We aim to change this state of affairs by proposing a very efficient algorithm for global maximisation of consensus.
- 263, TITLE: Mind's Eye: A Recurrent Visual Representation for Image Caption Generation
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Minds_Eye_A_2015_CVPR_paper.html
AUTHORS: Xinlei Chen, C. Lawrence Zitnick
HIGHLIGHT: In this paper we explore the bi-directional mapping between images and their sentence-based descriptions.
- 264, TITLE: Hierarchical Sparse Coding With Geometric Prior For Visual Geo-Location
http://openaccess.thecvf.com/content_cvpr_2015/html/Gopalan_Hierarchical_Sparse_Coding_2015_CVPR_paper.html
AUTHORS: Raghuraman Gopalan
HIGHLIGHT: We address the problem of estimating location information of an image using principles from automated representation learning.
- 265, TITLE: Joint Vanishing Point Extraction and Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Kroeger_Joint_Vanishing_Point_2015_CVPR_paper.html
AUTHORS: Till Kroeger, Dengxin Dai, Luc Van Gool
HIGHLIGHT: We present a novel vanishing point (VP) detection and tracking algorithm for calibrated monocular image sequences.
- 266, TITLE: Learning a Non-Linear Knowledge Transfer Model for Cross-View Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Rahmani_Learning_a_Non-Linear_2015_CVPR_paper.html
AUTHORS: Hossein Rahmani, Ajmal Mian
HIGHLIGHT: We propose unsupervised learning of a non-linear model that transfers knowledge from multiple views to a canonical view.
- 267, TITLE: Random Tree Walk Toward Instantaneous 3D Human Pose Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Jung_Random_Tree_Walk_2015_CVPR_paper.html
AUTHORS: Ho Yub Jung, Soochahn Lee, Yong Seok Heo, Il Dong Yun
HIGHLIGHT: This paper introduces 1000 frames per second pose estimation method on a single core CPU.
- 268, TITLE: Deep Hashing for Compact Binary Codes Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Liong_Deep_Hashing_for_2015_CVPR_paper.html
AUTHORS: Venice Erin Liong, Jiwen Lu, Gang Wang, Pierre Moulin, Jie Zhou
HIGHLIGHT: In this paper, we propose a new deep hashing (DH) approach to learn compact binary codes for large scale visual search.
- 269, TITLE: Completing 3D Object Shape From One Depth Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Rock_Completing_3D_Object_2015_CVPR_paper.html
AUTHORS: Jason Rock, Tanmay Gupta, Justin Thorsen, JunYoung Gwak, Daeyun Shin, Derek Hoiem
HIGHLIGHT: Our goal is to recover a complete 3D model from a depth image of an object.
- 270, TITLE: Encoding Based Saliency Detection for Videos and Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Mauthner_Encoding_Based_Saliency_2015_CVPR_paper.html
AUTHORS: Thomas Mauthner, Horst Possegger, Georg Waltner, Horst Bischof

HIGHLIGHT: We present a novel video saliency detection method to support human activity recognition and weakly supervised training of activity detection algorithms.

271, **TITLE:** Online Sketching Hashing
http://openaccess.thecvf.com/content_cvpr_2015/html/Leng_Online_Sketching_Hashing_2015_CVPR_paper.html
AUTHORS: Cong Leng, Jiaxiang Wu, Jian Cheng, Xiao Bai, Hanqing Lu
HIGHLIGHT: In this paper, we propose a novel approach to handle these two problems simultaneously based on the idea of data sketching.

272, **TITLE:** Enriching Object Detection With 2D-3D Registration and Continuous Viewpoint Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Choy_Enriching_Object_Detection_2015_CVPR_paper.html
AUTHORS: Christopher Bongsoo Choy, Michael Stark, Sam Corbett-Davies, Silvio Savarese
HIGHLIGHT: We propose an efficient method for synthesizing templates from 3D models that runs on the fly -- that is, it quickly produces detectors for an arbitrary viewpoint of a 3D model without expensive dataset-dependent training or template storage.

273, **TITLE:** Representing 3D Texture on Mesh Manifolds for Retrieval and Recognition Applications
http://openaccess.thecvf.com/content_cvpr_2015/html/Werghi_Representing_3D_Texture_2015_CVPR_paper.html
AUTHORS: Naoufel Werghi, Claudio Tortorici, Stefano Berretti, Alberto Del Bimbo
HIGHLIGHT: In this paper, we present and experiment a novel approach for representing texture of 3D mesh manifolds using local binary patterns (LBP).

274, **TITLE:** Saliency Propagation From Simple to Difficult
http://openaccess.thecvf.com/content_cvpr_2015/html/Gong_Saliency_Propagation_From_2015_CVPR_paper.html
AUTHORS: Chen Gong, Dacheng Tao, Wei Liu, Stephen J. Maybank, Meng Fang, Keren Fu, Jie Yang
HIGHLIGHT: In this paper, we attempt to manipulate the propagation sequence for optimizing the propagation quality.

275, **TITLE:** Learning an Efficient Model of Hand Shape Variation From Depth Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Khamis_Learning_an_Efficient_2015_CVPR_paper.html
AUTHORS: Sameh Khamis, Jonathan Taylor, Jamie Shotton, Cem Keskin, Shahram Izadi, Andrew Fitzgibbon
HIGHLIGHT: We describe how to learn a compact and efficient model of the surface deformation of human hands.

276, **TITLE:** On the Minimal Problems of Low-Rank Matrix Factorization
http://openaccess.thecvf.com/content_cvpr_2015/html/Jiang_On_the_Minimal_2015_CVPR_paper.html
AUTHORS: Fangyuan Jiang, Magnus Oskarsson, Kalle Astrom
HIGHLIGHT: We test our solvers on synthetic data as well as real data with outliers or a large portion of missing data and show that our method can handle the cases when other iterative methods, based on convex relaxation, fail.

277, **TITLE:** Symmetry-Based Text Line Detection in Natural Scenes
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Symmetry-Based_Text_Line_2015_CVPR_paper.html
AUTHORS: Zheng Zhang, Wei Shen, Cong Yao, Xiang Bai
HIGHLIGHT: In this work, we investigate the problem of scene text detection from an alternative perspective and propose a novel algorithm for it.

278, **TITLE:** DevNet: A Deep Event Network for Multimedia Event Detection and Evidence Recounting
http://openaccess.thecvf.com/content_cvpr_2015/html/Gan_DevNet_A_Deep_2015_CVPR_paper.html
AUTHORS: Chuang Gan, Naiyan Wang, Yi Yang, Dit-Yan Yeung, Alex G. Hauptmann
HIGHLIGHT: In this paper, we focus on complex event detection in internet videos while also providing the key evidences of the detection results.

279, **TITLE:** Learning to Detect Motion Boundaries
http://openaccess.thecvf.com/content_cvpr_2015/html/Weinzaepfel_Learning_to_Detect_2015_CVPR_paper.html
AUTHORS: Philippe Weinzaepfel, Jerome Revaud, Zaid Harchaoui, Cordelia Schmid
HIGHLIGHT: We propose a learning-based approach for motion boundary detection. We compare the results obtained with several state-of-the-art optical flow approaches and study the impact of the different cues used in the random forest. Furthermore, we introduce a new dataset, the YouTube Motion Boundaries dataset (YMB), that comprises 60 sequences taken from real-world videos with manually annotated motion boundaries.

280, **TITLE:** Improving Object Proposals With Multi-Thresholding Straddling Expansion
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Improving_Object_Proposals_2015_CVPR_paper.html
AUTHORS: Xiaozhi Chen, Huimin Ma, Xiang Wang, Zhichen Zhao

HIGHLIGHT: In this paper, we present an effective approach to address these issues.

281, TITLE: Visual Recognition by Counting Instances: A Multi-Instance Cardinality Potential Kernel
http://openaccess.thecvf.com/content_cvpr_2015/html/Hajimirsadeghi_Visual_Recognition_by_2015_CVPR_paper.html
AUTHORS: Hossein Hajimirsadeghi, Wang Yan, Arash Vahdat, Greg Mori
HIGHLIGHT: To this end, this paper develops a powerful and flexible framework to infer any cardinality relation between latent labels in a multi-instance model.

282, TITLE: Unconstrained 3D Face Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Roth_Unconstrained_3D_Face_2015_CVPR_paper.html
AUTHORS: Joseph Roth, Yiyong Tong, Xiaoming Liu
HIGHLIGHT: This paper presents an algorithm for unconstrained 3D face reconstruction.

283, TITLE: Becoming the Expert - Interactive Multi-Class Machine Teaching
http://openaccess.thecvf.com/content_cvpr_2015/html/Johns_Becoming_the_Expert_2015_CVPR_paper.html
AUTHORS: Edward Johns, Oisín Mac Aodha, Gabriel J. Brostow
HIGHLIGHT: In this work we propose an Interactive Machine Teaching algorithm that enables a computer to teach challenging visual concepts to a human.

284, TITLE: Long-Term Recurrent Convolutional Networks for Visual Recognition and Description
http://openaccess.thecvf.com/content_cvpr_2015/html/Donahue_Long-Term_Recurrent_Convolutional_2015_CVPR_paper.html
AUTHORS: Jeffrey Donahue, Lisa Anne Hendricks, Sergio Guadarrama, Marcus Rohrbach, Subhashini Venugopalan, Kate Saenko, Trevor Darrell
HIGHLIGHT: We develop a novel recurrent convolutional architecture suitable for large-scale visual learning which is end-to-end trainable, and demonstrate the value of these models on benchmark video recognition tasks, image to sentence generation problems, and video narration challenges.

285, TITLE: Zero-Shot Object Recognition by Semantic Manifold Distance
http://openaccess.thecvf.com/content_cvpr_2015/html/Fu_Zero-Shot_Object_Recognition_2015_CVPR_paper.html
AUTHORS: Zhenyong Fu, Tao Xiang, Elyor Kodirov, Shaogang Gong
HIGHLIGHT: In this paper we propose to model the semantic manifold in an embedding space using a semantic class label graph.

286, TITLE: Hyper-Class Augmented and Regularized Deep Learning for Fine-Grained Image Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Xie_Hyper-Class_Augmented_and_2015_CVPR_paper.html
AUTHORS: Saining Xie, Tianbao Yang, Xiaoyu Wang, Yuanqing Lin
HIGHLIGHT: In this paper, beyond the fine-tuning strategy, we propose a systematic framework of learning a deep CNN that addresses the challenges from two new perspectives: (i) identifying easily annotated hyper-classes inherent in the fine-grained data and acquiring a large number of hyper-class-labeled images from readily available external sources (e.g., image search engines), and formulating the problem into multi-task learning; (ii) a novel learning model by exploiting a regularization between the fine-grained recognition model and the hyper-class recognition model.

287, TITLE: Direct Structure Estimation for 3D Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Jiang_Direct_Structure_Estimation_2015_CVPR_paper.html
AUTHORS: Nianjuan Jiang, Daniel Lin, Minh N. Do, Jiangbo Lu
HIGHLIGHT: In this work we show that when combined with single/multiple homography estimation, the general Euclidean rigidity constraint provides a simple formulation for scene structure recovery without explicit camera pose computation.

288, TITLE: Global Supervised Descent Method
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiong_Global_Supervised_Descent_2015_CVPR_paper.html
AUTHORS: Xuehan Xiong, Fernando De la Torre
HIGHLIGHT: This paper proposes Global SDM (GSDM), an extension of SDM that divides the search space into regions of similar gradient directions.

289, TITLE: Robust Camera Location Estimation by Convex Programming
http://openaccess.thecvf.com/content_cvpr_2015/html/Ozyesil_Robust_Camera_Location_2015_CVPR_paper.html
AUTHORS: Onur Ozyesil, Amit Singer
HIGHLIGHT: For robust estimation of camera locations, we introduce a two-step approach, comprised of a pairwise direction estimation method robust to outliers in point correspondences between image pairs, and a convex program to maintain robustness to outlier directions.

- 290, TITLE: Practical Robust Two-View Translation Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Fredriksson_Practical_Robust_Two-View_2015_CVPR_paper.html
AUTHORS: Johan Fredriksson, Viktor Larsson, Carl Olsson
HIGHLIGHT: In this paper we propose a method that estimates the relative translation between two cameras and simultaneously maximizes the number of inlier correspondences.
- 291, TITLE: Learning From Massive Noisy Labeled Data for Image Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiao_Learning_From_Massive_2015_CVPR_paper.html
AUTHORS: Tong Xiao, Tian Xia, Yi Yang, Chang Huang, Xiaogang Wang
HIGHLIGHT: In this paper, we introduce a general framework to train CNNs with only a limited number of clean labels and millions of easily obtained noisy labels.
To demonstrate the effectiveness of our approach, we collect a large-scale real-world clothing classification dataset with both noisy and clean labels.
- 292, TITLE: KL Divergence Based Agglomerative Clustering for Automated Vitiligo Grading
http://openaccess.thecvf.com/content_cvpr_2015/html/Gupta_KL_Divergence_Based_2015_CVPR_paper.html
AUTHORS: Mithun Das Gupta, Srinidhi Srinivasa, Madhukara J., Meryl Antony
HIGHLIGHT: In this paper we present a symmetric KL divergence based agglomerative clustering framework to segment multiple levels of depigmentation in Vitiligo images.
- 293, TITLE: Robust Saliency Detection via Regularized Random Walks Ranking
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Robust_Saliency_Detection_2015_CVPR_paper.html
AUTHORS: Changyang Li, Yuchen Yuan, Weidong Cai, Yong Xia, David Dagan Feng
HIGHLIGHT: In this paper, we propose a novel bottom-up saliency detection approach that takes advantage of both region-based features and image details.
- 294, TITLE: Weakly Supervised Semantic Segmentation for Social Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Weakly_Supervised_Semantic_2015_CVPR_paper.html
AUTHORS: Wei Zhang, Sheng Zeng, Dequan Wang, Xiangyang Xue
HIGHLIGHT: We present a joint conditional random field model leveraging various contexts to address this issue.
- 295, TITLE: Image Specificity
http://openaccess.thecvf.com/content_cvpr_2015/html/Jas_Image_Specificity_2015_CVPR_paper.html
AUTHORS: Mainak Jas, Devi Parikh
HIGHLIGHT: In this paper, we introduce the notion of image specificity.
- 296, TITLE: A Multi-Plane Block-Coordinate Frank-Wolfe Algorithm for Training Structural SVMs With a Costly Max-Oracle
http://openaccess.thecvf.com/content_cvpr_2015/html/Shah_A_Multi-Plane_Block-Coordinate_2015_CVPR_paper.html
AUTHORS: Neel Shah, Vladimir Kolmogorov, Christoph H. Lampert
HIGHLIGHT: In this work, we introduce a new algorithm for SSVM training that is more efficient than earlier techniques when the max-oracle is computationally expensive, as it is frequently the case in computer vision tasks.
- 297, TITLE: Web-Scale Training for Face Identification
http://openaccess.thecvf.com/content_cvpr_2015/html/Taigman_Web-Scale_Training_for_2015_CVPR_paper.html
AUTHORS: Yaniv Taigman, Ming Yang, Marc'Aurelio Ranzato, Lior Wolf
HIGHLIGHT: We study face recognition and show that three distinct properties have surprising effects on the transferability of deep convolutional networks (CNN): (1) The bottleneck of the network serves as an important transfer learning regularizer, and (2) in contrast to the common wisdom, performance saturation may exist in CNN's (as the number of training samples grows); we propose a solution for alleviating this by replacing the naive random subsampling of the training set with a bootstrapping process.
- 298, TITLE: Dynamically Encoded Actions Based on Spacetime Saliency
http://openaccess.thecvf.com/content_cvpr_2015/html/Feichtenhofer_Dynamically_Encoded_Actions_2015_CVPR_paper.html
AUTHORS: Christoph Feichtenhofer, Axel Pinz, Richard P. Wildes
HIGHLIGHT: To enable this operation, we define a novel measure of spacetime saliency.
- 299, TITLE: Three Viewpoints Toward Exemplar SVM
http://openaccess.thecvf.com/content_cvpr_2015/html/Kobayashi_Three_Viewpoints_Toward_2015_CVPR_paper.html
AUTHORS: Takumi Kobayashi
HIGHLIGHT: In this paper, we present two novel viewpoints toward exemplar SVM in addition to the original definition.

- 300, TITLE: Visual Recognition by Learning From Web Data: A Weakly Supervised Domain Generalization Approach
http://openaccess.thecvf.com/content_cvpr_2015/html/Niu_Visual_Recognition_by_2015_CVPR_paper.html
AUTHORS: Li Niu, Wen Li, Dong Xu
HIGHLIGHT: In this work, we formulate a new weakly supervised domain generalization problem for the visual recognition task by using loosely labeled web images/videos as training data.
- 301, TITLE: Clustering of Static-Adaptive Correspondences for Deformable Object Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Nebehay_Clustering_of_Static-Adaptive_2015_CVPR_paper.html
AUTHORS: Georg Nebehay, Roman Pflugfelder
HIGHLIGHT: We propose a novel method for establishing correspondences on deformable objects for single-target object tracking.
- 302, TITLE: Geo-Semantic Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Ardeshir_Geo-Semantic_Segmentation_2015_CVPR_paper.html
AUTHORS: Shervin Ardeshir, Kofi Malcolm Collins-Sibley, Mubarak Shah
HIGHLIGHT: In this paper, we propose a method which leverages information acquired from GIS databases to perform semantic segmentation of the image alongside with geo-referencing each semantic segment with its address and geo-location.
- 303, TITLE: Towards Unified Depth and Semantic Prediction From a Single Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Towards_Unified_Depth_2015_CVPR_paper.html
AUTHORS: Peng Wang, Xiaohui Shen, Zhe Lin, Scott Cohen, Brian Price, Alan L. Yuille
HIGHLIGHT: Motivated by the complementary properties of the two tasks, we propose a unified framework for joint depth and semantic prediction.
- 304, TITLE: Towards Force Sensing From Vision: Observing Hand-Object Interactions to Infer Manipulation Forces
http://openaccess.thecvf.com/content_cvpr_2015/html/Pham_Towards_Force_Sensing_2015_CVPR_paper.html
AUTHORS: Tu-Hoa Pham, Abderrahmane Kheddar, Ammar Qammar, Antonis A. Argyros
HIGHLIGHT: We present a novel, non-intrusive approach for estimating contact forces during hand-object interactions relying solely on visual input provided by a single RGB-D camera.
- 305, TITLE: A MRF Shape Prior for Facade Parsing With Occlusions
http://openaccess.thecvf.com/content_cvpr_2015/html/Kozinski_A_MRF_Shape_2015_CVPR_paper.html
AUTHORS: Mateusz Kozinski, Raghudeep Gadde, Sergey Zagoruyko, Guillaume Obozinski, Renaud Marlet
HIGHLIGHT: We formulate the task of finding the most likely image segmentation conforming to a prior of the proposed form as a MAP-MRF problem over the standard 4-connected pixel grid with hard constraints on the classes of neighboring pixels, and propose an efficient optimization algorithm for solving it.
- 306, TITLE: Probability Occupancy Maps for Occluded Depth Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Bagautdinov_Probability_Occupancy_Maps_2015_CVPR_paper.html
AUTHORS: Timur Bagautdinov, Francois Fleuret, Pascal Fua
HIGHLIGHT: We propose a novel approach to computing the probabilities of presence of multiple and potentially occluding objects in a scene from a single depth map.
- 307, TITLE: Segment Based 3D Object Shape Priors
http://openaccess.thecvf.com/content_cvpr_2015/html/Mahabadi_Segment_Based_3D_2015_CVPR_paper.html
AUTHORS: Rabeeh Karimi Mahabadi, Christian Hane, Marc Pollefeys
HIGHLIGHT: For the object classes used in this paper the individual segments naturally correspond to different semantic parts of the object.
- 308, TITLE: Shape-From-Template in Flatland
http://openaccess.thecvf.com/content_cvpr_2015/html/Gallardo_Shape-From-Template_in_Flatland_2015_CVPR_paper.html
AUTHORS: Mathias Gallardo, Daniel Pizarro, Adrien Bartoli, Toby Collins
HIGHLIGHT: We introduce 1DSfT, a novel instance of SfT where the shape is a curve embedded in 2D and the image a 1D projection.
- 309, TITLE: Understanding Tools: Task-Oriented Object Modeling, Learning and Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhu_Understanding_Tools_Task-Oriented_2015_CVPR_paper.html
AUTHORS: Yixin Zhu, Yibiao Zhao, Song Chun Zhu

HIGHLIGHT: In this paper, we present a new framework - task-oriented modeling, learning and recognition which aims at understanding the underlying functions, physics and causality in using objects as "tools".

310, **TITLE:** Deep Roto-Translation Scattering for Object Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Oyallon_Deep_Roto-Translation_Scattering_2015_CVPR_paper.html
AUTHORS: Edouard Oyallon, Stephane Mallat
HIGHLIGHT: We introduce a deep scattering convolution network, with predefined wavelet filters over spatial and angular variables.

311, **TITLE:** Non-Rigid Registration of Images With Geometric and Photometric Deformation by Using Local Affine Fourier-Moment Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Su_Non-Rigid_Registration_of_2015_CVPR_paper.html
AUTHORS: Hong-Ren Su, Shang-Hong Lai
HIGHLIGHT: In this paper, we propose to estimate the integrated geometric and photometric transformations between two images based on a local affine Fourier-moment matching framework, which is developed to achieve deformable registration.

312, **TITLE:** Detector Discovery in the Wild: Joint Multiple Instance and Representation Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Hoffman_Detector_Discovery_in_2015_CVPR_paper.html
AUTHORS: Judy Hoffman, Deepak Pathak, Trevor Darrell, Kate Saenko
HIGHLIGHT: We propose a model that subsumes these previous approaches, and simultaneously trains a representation and detectors for categories with either weak or strong labels present.

313, **TITLE:** Deeply Learned Face Representations Are Sparse, Selective, and Robust
http://openaccess.thecvf.com/content_cvpr_2015/html/Sun_Deeply_Learned_Face_2015_CVPR_paper.html
AUTHORS: Yi Sun, Xiaogang Wang, Xiaoou Tang
HIGHLIGHT: This paper designs a high-performance deep convolutional network (DeepID2+) for face recognition.

314, **TITLE:** Unsupervised Visual Alignment With Similarity Graphs
http://openaccess.thecvf.com/content_cvpr_2015/html/Yancheshmeh_Unsupervised_Visual_Alignment_2015_CVPR_paper.html
AUTHORS: Fatemeh Shokrollahi Yancheshmeh, Ke Chen, Joni-Kristian Kamarainen
HIGHLIGHT: In this work, we adopt the feature based approach, but to overcome the aforementioned drawbacks define visual similarity as an assignment problem which is solved by fast approximation and non-linear optimization. From pair-wise image similarities we construct an image graph which is used to step-wise align, "morph", an image to another by graph traveling.

315, **TITLE:** Video Anomaly Detection and Localization Using Hierarchical Feature Representation and Gaussian Process Regression
http://openaccess.thecvf.com/content_cvpr_2015/html/Cheng_Video_Anomaly_Detection_2015_CVPR_paper.html
AUTHORS: Kai-Wen Cheng, Yie-Tarng Chen, Wen-Hsien Fang
HIGHLIGHT: This paper presents a hierarchical framework for detecting local and global anomalies via hierarchical feature representation and Gaussian process regression.

316, **TITLE:** Inferring 3D Layout of Building Facades From a Single Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Pan_Inferring_3D_Layout_2015_CVPR_paper.html
AUTHORS: Jiyan Pan, Martial Hebert, Takeo Kanade
HIGHLIGHT: In this paper, we propose a novel algorithm that infers the 3D layout of building facades from a single 2D image of an urban scene.

317, **TITLE:** Evaluation of Output Embeddings for Fine-Grained Image Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Akata_Evaluation_of_Output_2015_CVPR_paper.html
AUTHORS: Zeynep Akata, Scott Reed, Daniel Walter, Honglak Lee, Bernt Schiele
HIGHLIGHT: This project shows that compelling classification performance can be achieved on such categories even without labeled training data.

318, **TITLE:** Virtual View Networks for Object Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Carreira_Virtual_View_Networks_2015_CVPR_paper.html
AUTHORS: Joao Carreira, Abhishek Kar, Shubham Tulsiani, Jitendra Malik
HIGHLIGHT: We synthesize virtual views by computing geodesics on novel networks connecting objects with similar viewpoints, and introduce techniques to increase the specificity and robustness of factorization-based object reconstruction in this setting.

- 319, TITLE: Real-Time Coarse-to-Fine Topologically Preserving Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Yao_Real-Time_Coarse-to-Fine_Topologically_2015_CVPR_paper.html
AUTHORS: Jian Yao, Marko Boben, Sanja Fidler, Raquel Urtasun
HIGHLIGHT: In this paper, we tackle the problem of unsupervised segmentation in the form of superpixels.
- 320, TITLE: Supervised Mid-Level Features for Word Image Representation
http://openaccess.thecvf.com/content_cvpr_2015/html/Gordo_Supervised_Mid-Level_Features_2015_CVPR_paper.html
AUTHORS: Albert Gordo
HIGHLIGHT: We propose to learn local mid-level features suitable for building word image representations.
- 321, TITLE: Learning Lightness From Human Judgement on Relative Reflectance
http://openaccess.thecvf.com/content_cvpr_2015/html/Narihira_Learning_Lightness_From_2015_CVPR_paper.html
AUTHORS: Takuya Narihira, Michael Maire, Stella X. Yu
HIGHLIGHT: We develop a new approach to inferring lightness, the perceived reflectance of surfaces, from a single image.
- 322, TITLE: Scene Classification With Semantic Fisher Vectors
http://openaccess.thecvf.com/content_cvpr_2015/html/Dixit_Scene_Classification_With_2015_CVPR_paper.html
AUTHORS: Mandar Dixit, Si Chen, Dashan Gao, Nikhil Rasiwasia, Nuno Vasconcelos
HIGHLIGHT: Due to the difficulty of mixture modeling on a non-Euclidean probability simplex, this approach is shown to be unsuccessful.
- 323, TITLE: Don't Just Listen, Use Your Imagination: Leveraging Visual Common Sense for Non-Visual Tasks
http://openaccess.thecvf.com/content_cvpr_2015/html/Lin_Dont_Just_Listen_2015_CVPR_paper.html
AUTHORS: Xiao Lin, Devi Parikh
HIGHLIGHT: In this paper we leverage semantic common sense knowledge learned from images - i.e. visual common sense - in two textual tasks: fill-in-the-blank and visual paraphrasing.
- 324, TITLE: Co-Saliency Detection via Looking Deep and Wide
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Co-Saliency_Detection_via_2015_CVPR_paper.html
AUTHORS: Dingwen Zhang, Junwei Han, Chao Li, Jingdong Wang
HIGHLIGHT: In this paper, we propose a unified co-saliency detection framework by introducing two novel insights: 1) looking deep to transfer higher-level representations by using the convolutional neural network with additional adaptive layers could better reflect the properties of the co-salient objects, especially their consistency among the image group; 2) looking wide to take advantage of the visually similar neighbors beyond a certain image group could effectively suppress the influence of the common background regions when formulating the intra-group consistency.
- 325, TITLE: Adopting an Unconstrained Ray Model in Light-Field Cameras for 3D Shape Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Bergamasco_Adopting_an_Unconstrained_2015_CVPR_paper.html
AUTHORS: Filippo Bergamasco, Andrea Albarelli, Luca Cosmo, Andrea Torsello, Emanuele Rodola, Daniel Cremers
HIGHLIGHT: With this paper we propose to embrace a fully non-parametric model for the imaging and we show that it can be properly calibrated with little effort using a dense active target.
- 326, TITLE: Towards 3D Object Detection With Bimodal Deep Boltzmann Machines Over RGBD Imagery
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Towards_3D_Object_2015_CVPR_paper.html
AUTHORS: Wei Liu, Rongrong Ji, Shaozi Li
HIGHLIGHT: In this work, we propose a cross-modality deep learning framework based on deep Boltzmann Machines for 3D Scenes object detection.
- 327, TITLE: An Active Search Strategy for Efficient Object Class Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Gonzalez-Garcia_An_Active_Search_2015_CVPR_paper.html
AUTHORS: Abel Gonzalez-Garcia, Alexander Vezhnevets, Vittorio Ferrari
HIGHLIGHT: In this paper, we develop an active search strategy that sequentially chooses the next window to evaluate based on all the information gathered before.
- 328, TITLE: Geodesic Exponential Kernels: When Curvature and Linearity Conflict
http://openaccess.thecvf.com/content_cvpr_2015/html/Feragen_Geodesic_Exponential_Kernels_2015_CVPR_paper.html
AUTHORS: Aasa Feragen, Francois Lauze, Soren Hauberg
HIGHLIGHT: We consider kernel methods on general geodesic metric spaces and provide both negative and positive results.
- 329, TITLE: Transformation-Invariant Convolutional Jungles

http://openaccess.thecvf.com/content_cvpr_2015/html/Laptev_Transformation-Invariant_Convolutional_Jungles_2015_CVPR_paper.html

AUTHORS: Dmitry Laptev, Joachim M. Buhmann

HIGHLIGHT: We propose a novel supervised feature learning approach, which efficiently extracts information from these constraints to produce interpretable, transformation-invariant features.

330, TITLE: Exemplar SVMs as Visual Feature Encoders

http://openaccess.thecvf.com/content_cvpr_2015/html/Zepeda_Exemplar_SVMs_as_2015_CVPR_paper.html

AUTHORS: Joaquin Zepeda, Patrick Perez

HIGHLIGHT: In this work, we investigate the use of exemplar SVMs (linear SVMs trained with one positive example only and a vast collection of negative examples) as encoders that turn generic image features into new, task-tailored features.

331, TITLE: Object Scene Flow for Autonomous Vehicles

http://openaccess.thecvf.com/content_cvpr_2015/html/Menze_Object_Scene_Flow_2015_CVPR_paper.html

AUTHORS: Moritz Menze, Andreas Geiger

HIGHLIGHT: This paper proposes a novel model and dataset for 3D scene flow estimation with an application to autonomous driving.

We obtain this dataset by annotating 400 dynamic scenes from the KITTI raw data collection using detailed 3D CAD models for all vehicles in motion.

332, TITLE: Reflectance Hashing for Material Recognition

http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Reflectance_Hashing_for_2015_CVPR_paper.html

AUTHORS: Hang Zhang, Kristin Dana, Ko Nishino

HIGHLIGHT: We introduce a novel method for using reflectance to identify materials.

333, TITLE: Joint Photo Stream and Blog Post Summarization and Exploration

http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Joint_Photo_Stream_2015_CVPR_paper.html

AUTHORS: Gunhee Kim, Seungwhan Moon, Leonid Sigal

HIGHLIGHT: We propose an approach that utilizes large collections of photo streams and blog posts, two of the most prevalent sources of data on the Web, for joint story-based summarization and exploration.

334, TITLE: Video Summarization by Learning Submodular Mixtures of Objectives

http://openaccess.thecvf.com/content_cvpr_2015/html/Gygli_Video_Summarization_by_2015_CVPR_paper.html

AUTHORS: Michael Gygli, Helmut Grabner, Luc Van Gool

HIGHLIGHT: We present a novel method for summarizing raw, casually captured videos.

335, TITLE: Building Proteins in a Day: Efficient 3D Molecular Reconstruction

http://openaccess.thecvf.com/content_cvpr_2015/html/Brubaker_Building_Proteins_in_2015_CVPR_paper.html

AUTHORS: Marcus A. Brubaker, Ali Punjani, David J. Fleet

HIGHLIGHT: A new framework for estimation is introduced which relies on modern stochastic optimization techniques to scale to large datasets.

336, TITLE: Learning Descriptors for Object Recognition and 3D Pose Estimation

http://openaccess.thecvf.com/content_cvpr_2015/html/Wohlhart_Learning_Descriptors_for_2015_CVPR_paper.html

AUTHORS: Paul Wohlhart, Vincent Lepetit

HIGHLIGHT: We introduce a simple but powerful approach to computing descriptors for object views that efficiently capture both the object identity and 3D pose.

337, TITLE: Image Partitioning Into Convex Polygons

http://openaccess.thecvf.com/content_cvpr_2015/html/Duan_Image_Partitioning_Into_2015_CVPR_paper.html

AUTHORS: Liuyun Duan, Florent Lafarge

HIGHLIGHT: We propose an alternative to these methods by operating at the level of geometric shapes.

338, TITLE: Deep Visual-Semantic Alignments for Generating Image Descriptions

http://openaccess.thecvf.com/content_cvpr_2015/html/Karpathy_Deep_Visual-Semantic_Alignments_2015_CVPR_paper.html

AUTHORS: Andrej Karpathy, Li Fei-Fei

HIGHLIGHT: We present a model that generates natural language descriptions of images and their regions.

339, TITLE: Unsupervised Learning of Complex Articulated Kinematic Structures Combining Motion and Skeleton Information

- http://openaccess.thecvf.com/content_cvpr_2015/html/Chang_Unsupervised_Learning_of_2015_CVPR_paper.html
AUTHORS: Hyung Jin Chang, Yiannis Demiris
HIGHLIGHT: In this paper we present a novel framework for unsupervised kinematic structure learning of complex articulated objects from a single-view image sequence.
- 340, TITLE: Elastic Functional Coding of Human Actions: From Vector-Fields to Latent Variables
http://openaccess.thecvf.com/content_cvpr_2015/html/Anirudh_Elastic_Functional_Coding_2015_CVPR_paper.html
AUTHORS: Rushil Anirudh, Pavan Turaga, Jingyong Su, Anuj Srivastava
HIGHLIGHT: We propose to learn the low dimensional embedding with a manifold functional variant of principal component analysis (mfPCA).
- 341, TITLE: Show and Tell: A Neural Image Caption Generator
http://openaccess.thecvf.com/content_cvpr_2015/html/Vinyals_Show_and_Tell_2015_CVPR_paper.html
AUTHORS: Oriol Vinyals, Alexander Toshev, Samy Bengio, Dumitru Erhan
HIGHLIGHT: In this paper, we present a generative model based on a deep recurrent architecture that combines recent advances in computer vision and machine translation and that can be used to generate natural sentences describing an image.
- 342, TITLE: Descriptor Free Visual Indoor Localization With Line Segments
http://openaccess.thecvf.com/content_cvpr_2015/html/Micusik_Descriptor_Free_Visual_2015_CVPR_paper.html
AUTHORS: Branislav Micusik, Horst Wildenauer
HIGHLIGHT: We present a novel view on the indoor visual localization problem, where we avoid the use of interest points and associated descriptors, which are the basic building blocks of most standard methods.
- 343, TITLE: Fixation Bank: Learning to Reweight Fixation Candidates
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhao_Fixation_Bank_Learning_2015_CVPR_paper.html
AUTHORS: Jiaping Zhao, Christian Siagian, Laurent Itti
HIGHLIGHT: Fixation Bank: Learning to Reweight Fixation Candidates
- 344, TITLE: Deep Networks for Saliency Detection via Local Estimation and Global Search
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Deep_Networks_for_2015_CVPR_paper.html
AUTHORS: Lijun Wang, Huchuan Lu, Xiang Ruan, Ming-Hsuan Yang
HIGHLIGHT: This paper presents a saliency detection algorithm by integrating both local estimation and global search.
- 345, TITLE: Reflection Removal Using Ghosting Cues
http://openaccess.thecvf.com/content_cvpr_2015/html/Shih_Reflection_Removal_Using_2015_CVPR_paper.html
AUTHORS: YiChang Shih, Dilip Krishnan, Fredo Durand, William T. Freeman
HIGHLIGHT: In this work, we introduce the use of ghosting cues that introduce asymmetry between the layers, thereby helping to significantly reduce the ill-posedness of the problem.
- 346, TITLE: A Dataset for Movie Description
http://openaccess.thecvf.com/content_cvpr_2015/html/Rohrbach_A_Dataset_for_2015_CVPR_paper.html
AUTHORS: Anna Rohrbach, Marcus Rohrbach, Niket Tandon, Bernt Schiele
HIGHLIGHT: In this work we propose a novel dataset which contains transcribed ADs, which are temporally aligned to full length HD movies.
- 347, TITLE: Fast and Robust Hand Tracking Using Detection-Guided Optimization
http://openaccess.thecvf.com/content_cvpr_2015/html/Sridhar_Fast_and_Robust_2015_CVPR_paper.html
AUTHORS: Srinath Sridhar, Franziska Mueller, Antti Oulasvirta, Christian Theobalt
HIGHLIGHT: In this paper, we present a fast method for accurately tracking rapid and complex articulations of the hand using a single depth camera.
- 348, TITLE: Efficient SDP Inference for Fully-Connected CRFs Based on Low-Rank Decomposition
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Efficient_SDP_Inference_2015_CVPR_paper.html
AUTHORS: Peng Wang, Chunhua Shen, Anton van den Hengel
HIGHLIGHT: In this work, we develop an efficient, yet general SDP algorithm for inference on fully-connected CRFs.
- 349, TITLE: Discriminative Learning of Iteration-Wise Priors for Blind Deconvolution
http://openaccess.thecvf.com/content_cvpr_2015/html/Zuo_Discriminative_Learning_of_2015_CVPR_paper.html
AUTHORS: Wangmeng Zuo, Dongwei Ren, Shuhang Gu, Liang Lin, Lei Zhang

HIGHLIGHT: In this paper, we propose a blind deconvolution framework together with iteration specific priors for better blur kernel estimation.

350, **TITLE:** Eye Tracking Assisted Extraction of Attentionally Important Objects From Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Vadivel_Eye_Tracking_Assisted_2015_CVPR_paper.html
AUTHORS: Karthikeyan Shanmuga Vadivel, Thuyen Ngo, Miguel Eckstein, B.S. Manjunath
HIGHLIGHT: In this paper, we propose an algorithm to extract objects which attract visual attention from videos.

351, **TITLE:** Multi-View Feature Engineering and Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Dong_Multi-View_Feature_Engineering_2015_CVPR_paper.html
AUTHORS: Jingming Dong, Nikolaos Karianakis, Damek Davis, Joshua Hernandez, Jonathan Balzer, Stefano Soatto
HIGHLIGHT: We propose a sampling-based and a point-estimate based approximation of such a representation, compared empirically on image-to-(multiple)image matching, for which we introduce a multi-view wide-baseline matching benchmark, consisting of a mixture of real and synthetic objects with ground truth camera motion and dense three-dimensional geometry.

352, **TITLE:** Self Scaled Regularized Robust Regression
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Self_Scaled_Regularized_2015_CVPR_paper.html
AUTHORS: Yin Wang, Caglayan Dicle, Mario Sznai, Octavia Camps
HIGHLIGHT: To circumvent these difficulties, in this paper we present an alternative approach to robust regression.

353, **TITLE:** Simultaneous Feature Learning and Hash Coding With Deep Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Lai_Simultaneous_Feature_Learning_2015_CVPR_paper.html
AUTHORS: Hanjiang Lai, Yan Pan, Ye Liu, Shuicheng Yan
HIGHLIGHT: In this paper, we propose a deep architecture for supervised hashing, in which images are mapped into binary codes via carefully designed deep neural networks.

354, **TITLE:** MatchNet: Unifying Feature and Metric Learning for Patch-Based Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Han_MatchNet_Unifying_Feature_2015_CVPR_paper.html
AUTHORS: Xufeng Han, Thomas Leung, Yangqing Jia, Rahul Sukthankar, Alexander C. Berg
HIGHLIGHT: Motivated by recent successes on learning feature representations and on learning feature comparison functions, we propose a unified approach to combining both for training a patch matching system.

355, **TITLE:** Reconstructing the World* in Six Days *(As Captured by the Yahoo 100 Million Image Dataset)
http://openaccess.thecvf.com/content_cvpr_2015/html/Heinly_Reconstructing_the_World_2015_CVPR_paper.html
AUTHORS: Jared Heinly, Johannes L. Schonberger, Enrique Dunn, Jan-Michael Frahm
HIGHLIGHT: We propose a novel, large-scale, structure-from-motion framework that advances the state of the art in data scalability from city-scale modeling (millions of images) to world-scale modeling (several tens of millions of images) using just a single computer.

356, **TITLE:** Exact Bias Correction and Covariance Estimation for Stereo Vision
http://openaccess.thecvf.com/content_cvpr_2015/html/Freundlich_Exact_Bias_Correction_2015_CVPR_paper.html
AUTHORS: Charles Freundlich, Michael Zavlanos, Philippos Mordohai
HIGHLIGHT: We present an approach for correcting the bias in 3D reconstruction of points imaged by a calibrated stereo rig.

357, **TITLE:** Computing Similarity Transformations From Only Image Correspondences
http://openaccess.thecvf.com/content_cvpr_2015/html/Sweeney_Computing_Similarity_Transformations_2015_CVPR_paper.html
AUTHORS: Chris Sweeney, Laurent Kneip, Tobias Hollerer, Matthew Turk
HIGHLIGHT: We propose a novel solution for computing the relative pose between two generalized cameras that includes reconciling the internal scale of the generalized cameras.

358, **TITLE:** Image Segmentation in Twenty Questions
http://openaccess.thecvf.com/content_cvpr_2015/html/Rupprecht_Image_Segmentation_in_2015_CVPR_paper.html
AUTHORS: Christian Rupprecht, Loic Peter, Nassir Navab
HIGHLIGHT: We introduce a strategy for the computer to increase the accuracy of its guess in a minimal number of questions.

359, **TITLE:** Interaction Part Mining: A Mid-Level Approach for Fine-Grained Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhou_Interaction_Part_Mining_2015_CVPR_paper.html
AUTHORS: Yang Zhou, Bingbing Ni, Richang Hong, Meng Wang, Qi Tian
HIGHLIGHT: To bypass this constraint and achieve better classification performance, in this work, we propose a novel fine-grained action recognition pipeline by interaction part proposal and discriminative mid-level part mining.

- 360, TITLE: Sparse Projections for High-Dimensional Binary Codes
http://openaccess.thecvf.com/content_cvpr_2015/html/Xia_Sparse_Projections_for_2015_CVPR_paper.html
AUTHORS: Yan Xia, Kaiming He, Pushmeet Kohli, Jian Sun
HIGHLIGHT: In this paper, we overcome both these problems by introducing a sparsity encouraging regularizer that reduces the effective number of parameters involved in the learned projection operator.
- 361, TITLE: Hierarchically-Constrained Optical Flow
http://openaccess.thecvf.com/content_cvpr_2015/html/Kennedy_Hierarchically-Constrained_Optical_Flow_2015_CVPR_paper.html
AUTHORS: Ryan Kennedy, Camillo J. Taylor
HIGHLIGHT: This paper presents a novel approach to solving optical flow problems using a discrete, tree-structured MRF derived from a hierarchical segmentation of the image.
- 362, TITLE: The k-Support Norm and Convex Envelopes of Cardinality and Rank
http://openaccess.thecvf.com/content_cvpr_2015/html/Eriksson_The_k-Support_Norm_2015_CVPR_paper.html
AUTHORS: Anders Eriksson, Trung Thanh Pham, Tat-Jun Chin, Ian Reid
HIGHLIGHT: In this paper we present a re-derivation of this norm, with the hope of shedding further light on this particular surrogate function.
- 363, TITLE: Matching Bags of Regions in RGBD images
http://openaccess.thecvf.com/content_cvpr_2015/html/Jiang_Matching_Bags_of_2015_CVPR_paper.html
AUTHORS: Hao Jiang
HIGHLIGHT: We propose a linear formulation, which optimizes the region selection and matching simultaneously so that the matched regions have similar color histogram, shape, and small overlaps, the selected regions have a small number and overall low concavity, and they tend to cover both of the images.
- 364, TITLE: Recurrent Convolutional Neural Network for Object Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Liang_Recurrent_Convolutional_Neural_2015_CVPR_paper.html
AUTHORS: Ming Liang, Xiaolin Hu
HIGHLIGHT: Inspired by this fact, we propose a recurrent CNN (RCNN) for object recognition by incorporating recurrent connections into each convolutional layer.
- 365, TITLE: Feedforward Semantic Segmentation With Zoom-Out Features
http://openaccess.thecvf.com/content_cvpr_2015/html/Mostajabi_Feedforward_Semantic_Segmentation_2015_CVPR_paper.html
AUTHORS: Mohammadreza Mostajabi, Payman Yadollahpour, Gregory Shakhnarovich
HIGHLIGHT: We introduce a purely feed-forward architecture for semantic segmentation.
- 366, TITLE: The Aperture Problem for Refractive Motion
http://openaccess.thecvf.com/content_cvpr_2015/html/Xue_The_Aperture_Problem_2015_CVPR_paper.html
AUTHORS: Tianfan Xue, Hossein Mobahi, Fredo Durand, William T. Freeman
HIGHLIGHT: We pose and solve a generalization of the aperture problem for moving refractive elements.
- 367, TITLE: Saliency-Aware Geodesic Video Object Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Saliency-Aware_Geodesic_Video_2015_CVPR_paper.html
AUTHORS: Wenguan Wang, Jianbing Shen, Fatih Porikli
HIGHLIGHT: We introduce an unsupervised, geodesic distance based, salient video object segmentation method.
- 368, TITLE: DEEP-CARVING: Discovering Visual Attributes by Carving Deep Neural Nets
http://openaccess.thecvf.com/content_cvpr_2015/html/Shankar_DEEP-CARVING_Discovering_Visual_2015_CVPR_paper.html
AUTHORS: Sukrit Shankar, Vikas K. Garg, Roberto Cipolla
HIGHLIGHT: In this paper, we aim to discover visual attributes in a weakly supervised setting that is commonly encountered with contemporary image search engines.
- 369, TITLE: Rent3D: Floor-Plan Priors for Monocular Layout Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Rent3D_Floor-Plan_Priors_2015_CVPR_paper.html
AUTHORS: Chenxi Liu, Alexander G. Schwing, Kaustav Kundu, Raquel Urtasun, Sanja Fidler
HIGHLIGHT: The goal of this paper is to enable a 3D "virtual-tour" of an apartment given a small set of monocular images of different rooms, as well as a 2D floor plan.

- 370, TITLE: Learning a Sequential Search for Landmarks
http://openaccess.thecvf.com/content_cvpr_2015/html/Singh_Learning_a_Sequential_2015_CVPR_paper.html
AUTHORS: Saurabh Singh, Derek Hoiem, David Forsyth
HIGHLIGHT: We propose a general method to find landmarks in images of objects using both appearance and spatial context.
- 371, TITLE: Fully Convolutional Networks for Semantic Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Long_Fully_Convolutional_Networks_2015_CVPR_paper.html
AUTHORS: Jonathan Long, Evan Shelhamer, Trevor Darrell
HIGHLIGHT: Our key insight is to build "fully convolutional" networks that take input of arbitrary size and produce correspondingly-sized output with efficient inference and learning.
- 372, TITLE: Deep Correlation for Matching Images and Text
http://openaccess.thecvf.com/content_cvpr_2015/html/Yan_Deep_Correlation_for_2015_CVPR_paper.html
AUTHORS: Fei Yan, Krystian Mikolajczyk
HIGHLIGHT: We address these problems by a GPU implementation and propose methods to deal with overfitting.
- 373, TITLE: Multi-Objective Convolutional Learning for Face Labeling
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Multi-Objective_Convolutional_Learning_2015_CVPR_paper.html
AUTHORS: Sifei Liu, Jimei Yang, Chang Huang, Ming-Hsuan Yang
HIGHLIGHT: We develop a novel multi-objective learning method that optimizes a single unified deep convolutional network with two distinct non-structured loss functions: one encoding the unary label likelihoods and the other encoding the pairwise label dependencies.
- 374, TITLE: Deep Multiple Instance Learning for Image Classification and Auto-Annotation
http://openaccess.thecvf.com/content_cvpr_2015/html/Wu_Deep_Multiple_Instance_2015_CVPR_paper.html
AUTHORS: Jiajun Wu, Yinan Yu, Chang Huang, Kai Yu
HIGHLIGHT: In this paper, we attempt to model deep learning in a weakly supervised learning (multiple instance learning) framework.
- 375, TITLE: Multi-Instance Object Segmentation With Occlusion Handling
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Multi-Instance_Object_Segmentation_2015_CVPR_paper.html
AUTHORS: Yi-Ting Chen, Xiaokai Liu, Ming-Hsuan Yang
HIGHLIGHT: We present a multi-instance object segmentation algorithm to tackle occlusions.
- 376, TITLE: Material Recognition in the Wild With the Materials in Context Database
http://openaccess.thecvf.com/content_cvpr_2015/html/Bell_Material_Recognition_in_2015_CVPR_paper.html
AUTHORS: Sean Bell, Paul Upchurch, Noah Snavely, Kavita Bala
HIGHLIGHT: In this paper, we introduce a new, large-scale, open dataset of materials in the wild, the Materials in Context Database (MINC), and combine this dataset with deep learning to achieve material recognition and segmentation of images in the wild.
- 377, TITLE: Understanding Pedestrian Behaviors From Stationary Crowd Groups
http://openaccess.thecvf.com/content_cvpr_2015/html/Yi_Understanding_Pedestrian_Behaviors_2015_CVPR_paper.html
AUTHORS: Shuai Yi, Hongsheng Li, Xiaogang Wang
HIGHLIGHT: In this paper, a novel model is proposed for pedestrian behavior modeling by including stationary crowd groups as a key component.
- 378, TITLE: Depth From Focus With Your Mobile Phone
http://openaccess.thecvf.com/content_cvpr_2015/html/Suwajanakorn_Depth_From_Focus_2015_CVPR_paper.html
AUTHORS: Supasorn Suwajanakorn, Carlos Hernandez, Steven M. Seitz
HIGHLIGHT: Our approach is demonstrated on a range of challenging cases and produces high quality results.
- 379, TITLE: Fusion Moves for Correlation Clustering
http://openaccess.thecvf.com/content_cvpr_2015/html/Beier_Fusion_Moves_for_2015_CVPR_paper.html
AUTHORS: Thorsten Beier, Fred A. Hamprecht, Jorg H. Kappes
HIGHLIGHT: We investigate scalable methods for correlation clustering.
- 380, TITLE: Second-Order Constrained Parametric Proposals and Sequential Search-Based Structured Prediction for Semantic Segmentation in RGB-D Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Banica_Second-Order_Constrained_Parametric_2015_CVPR_paper.html

- AUTHORS: Dan Banica, Cristian Sminchisescu
HIGHLIGHT: We focus on the problem of semantic segmentation based on RGB-D data, with emphasis on analyzing cluttered indoor scenes containing many visual categories and instances.
- 381, TITLE: Metric Imitation by Manifold Transfer for Efficient Vision Applications
http://openaccess.thecvf.com/content_cvpr_2015/html/Dai_Metric_Imitation_by_2015_CVPR_paper.html
AUTHORS: Dengxin Dai, Till Kroeger, Radu Timofte, Luc Van Gool
HIGHLIGHT: In this paper, we propose an unsupervised method, dubbed Metric Imitation (MI), where metrics over one cheap feature (target features, TFs) are learned by imitating the standard metrics over another sophisticated, off-the-shelf feature (source features, SFs) by transferring the view-independent property manifold structures.
- 382, TITLE: The Stitched Puppet: A Graphical Model of 3D Human Shape and Pose
http://openaccess.thecvf.com/content_cvpr_2015/html/Zuffi_The_Stitched_Puppet_2015_CVPR_paper.html
AUTHORS: Silvia Zuffi, Michael J. Black
HIGHLIGHT: We propose a new 3D model of the human body that is both realistic and part-based.
- 383, TITLE: Scene Labeling With LSTM Recurrent Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Byeon_Scene_Labeling_With_2015_CVPR_paper.html
AUTHORS: Wonmin Byeon, Thomas M. Breuel, Federico Raue, Marcus Liwicki
HIGHLIGHT: This paper addresses the problem of pixel-level segmentation and classification of scene images with an entirely learning-based approach using Long Short Term Memory (LSTM) recurrent neural networks, which are commonly used for sequence classification.
- 384, TITLE: FAemb: A Function Approximation-Based Embedding Method for Image Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Do_FAemb_A_Function_2015_CVPR_paper.html
AUTHORS: Thanh-Toan Do, Quang D. Tran, Ngai-Man Cheung
HIGHLIGHT: The objective of this paper is to design an embedding method mapping local features describing image (e.g. SIFT) to a higher dimensional representation used for image retrieval problem.
- 385, TITLE: Automatically Discovering Local Visual Material Attributes
http://openaccess.thecvf.com/content_cvpr_2015/html/Schwartz_Automatically_Discovering_Local_2015_CVPR_paper.html
AUTHORS: Gabriel Schwartz, Ko Nishino
HIGHLIGHT: In this paper, we derive a framework that allows us to discover locally-recognizable material attributes from crowdsourced perceptual material distances.
- 386, TITLE: Depth Image Enhancement Using Local Tangent Plane Approximations
http://openaccess.thecvf.com/content_cvpr_2015/html/Matsuo_Depth_Image_Enhancement_2015_CVPR_paper.html
AUTHORS: Kiyoshi Matsuo, Yoshimitsu Aoki
HIGHLIGHT: This paper describes a depth image enhancement method for consumer RGB-D cameras.
- 387, TITLE: Video Co-Summarization: Video Summarization by Visual Co-Occurrence
http://openaccess.thecvf.com/content_cvpr_2015/html/Chu_Video_Co-Summarization_Video_2015_CVPR_paper.html
AUTHORS: Wen-Sheng Chu, Yale Song, Alejandro Jaimes
HIGHLIGHT: We present video co-summarization, a novel perspective to video summarization that exploits visual co-occurrence across multiple videos.
- 388, TITLE: Watch and Learn: Semi-Supervised Learning for Object Detectors From Video
http://openaccess.thecvf.com/content_cvpr_2015/html/Misra_Watch_and_Learn_2015_CVPR_paper.html
AUTHORS: Ishan Misra, Abhinav Shrivastava, Martial Hebert
HIGHLIGHT: We present a semi-supervised approach that localizes multiple unknown object instances in long videos.
- 389, TITLE: Generalized Tensor Total Variation Minimization for Visual Data Recovery
http://openaccess.thecvf.com/content_cvpr_2015/html/Guo_Generalized_Tensor_Total_2015_CVPR_paper.html
AUTHORS: Xiaojie Guo, Yi Ma
HIGHLIGHT: In this paper, we propose a definition of Generalized Tensor Total Variation norm (GTV) that considers both the inhomogeneity and the multi-directionality of responses to derivative-like filters.
- 390, TITLE: Active Learning for Structured Probabilistic Models With Histogram Approximation
http://openaccess.thecvf.com/content_cvpr_2015/html/Sun_Active_Learning_for_2015_CVPR_paper.html
AUTHORS: Qing Sun, Ankit Laddha, Dhruv Batra

HIGHLIGHT: We propose a crude yet surprisingly effective histogram approximation to the Gibbs distribution, which replaces the exponentially-large support with a coarsened distribution that may be viewed as a histogram over M bins.

391, **TITLE:** Image Parsing With a Wide Range of Classes and Scene-Level Context
http://openaccess.thecvf.com/content_cvpr_2015/html/George_Image_Parsing_With_2015_CVPR_paper.html

AUTHORS: Marian George

HIGHLIGHT: This paper presents a nonparametric scene parsing approach that improves the overall accuracy, as well as the coverage of foreground classes in scene images.

392, **TITLE:** Bayesian Sparse Representation for Hyperspectral Image Super Resolution
http://openaccess.thecvf.com/content_cvpr_2015/html/Akhtar_Bayesian_Sparse_Representation_2015_CVPR_paper.html

AUTHORS: Naveed Akhtar, Faisal Shafait, Ajmal Mian

HIGHLIGHT: We propose a hyperspectral image super resolution approach that fuses a high resolution image with the low resolution hyperspectral image using non-parametric Bayesian sparse representation.

393, **TITLE:** Semantic Object Segmentation via Detection in Weakly Labeled Video
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Semantic_Object_Segmentation_2015_CVPR_paper.html

AUTHORS: Yu Zhang, Xiaowu Chen, Jia Li, Chen Wang, Changqun Xia

HIGHLIGHT: To address this problem, this paper proposes an approach to segment semantic objects in weakly labeled video via object detection.

394, **TITLE:** Learning With Dataset Bias in Latent Subcategory Models
http://openaccess.thecvf.com/content_cvpr_2015/html/Stamos_Learning_With_Dataset_2015_CVPR_paper.html

AUTHORS: Dimitris Stamos, Samuele Martelli, Moin Nabi, Andrew McDonald, Vittorio Murino, Massimiliano Pontil

HIGHLIGHT: In this paper, we present a model which jointly learns an LSM for each dataset as well as a compound LSM.

395, **TITLE:** Project-Out Cascaded Regression With an Application to Face Alignment
http://openaccess.thecvf.com/content_cvpr_2015/html/Tzimiropoulos_Project-Out_Cascaded_Regression_2015_CVPR_paper.html

AUTHORS: Georgios Tzimiropoulos

HIGHLIGHT: In this paper, we consider the problem of facial deformable model fitting using cascaded regression and make the following contributions: (a) We propose regression to learn a sequence of averaged Jacobian and Hessian matrices from data, and from them descent directions in a fashion inspired by Gauss-Newton optimization.

396, **TITLE:** Image Retrieval Using Scene Graphs
http://openaccess.thecvf.com/content_cvpr_2015/html/Johnson_Image_Retrieval_Using_2015_CVPR_paper.html

AUTHORS: Justin Johnson, Ranjay Krishna, Michael Stark, Li-Jia Li, David Shamma, Michael Bernstein, Li Fei-Fei

HIGHLIGHT: We introduce a novel dataset of 5,000 human-generated scene graphs grounded to images and use this dataset to evaluate our method for image retrieval.

397, **TITLE:** Unifying Holistic and Parts-Based Deformable Model Fitting
http://openaccess.thecvf.com/content_cvpr_2015/html/Alabort-i-Medina_Unifying_Holistic_and_2015_CVPR_paper.html

AUTHORS: Joan Alabort-i-Medina, Stefanos Zafeiriou

HIGHLIGHT: In this paper we try to marry the previous two frameworks into a unified one that potentially combines the advantages of both.

398, **TITLE:** Small Instance Detection by Integer Programming on Object Density Maps
http://openaccess.thecvf.com/content_cvpr_2015/html/Ma_Small_Instance_Detection_2015_CVPR_paper.html

AUTHORS: Zheng Ma, Lei Yu, Antoni B. Chan

HIGHLIGHT: We propose a novel object detection framework for partially-occluded small instances, such as pedestrians in low resolution surveillance video, cells under a microscope, flocks of small animals (e.g. birds, fishes), or even tiny insects like honeybees and flies.

399, **TITLE:** Motion Part Regularization: Improving Action Recognition via Trajectory Selection
http://openaccess.thecvf.com/content_cvpr_2015/html/Ni_Motion_Part_Regularization_2015_CVPR_paper.html

AUTHORS: Bingbing Ni, Pierre Moulin, Xiaokang Yang, Shuicheng Yan

HIGHLIGHT: We propose an alternative optimization algorithm to efficiently solve this objective function by introducing a set of auxiliary variables.

400, **TITLE:** Multi-Task Deep Visual-Semantic Embedding for Video Thumbnail Selection
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Multi-Task_Deep_Visual-Semantic_2015_CVPR_paper.html

AUTHORS: Wu Liu, Tao Mei, Yongdong Zhang, Cherry Che, Jiebo Luo
HIGHLIGHT: In this paper, we have developed a multi-task deep visual-semantic embedding model, which can automatically select query-dependent video thumbnails according to both visual and side information.

401, TITLE: Fine-Grained Visual Categorization via Multi-Stage Metric Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Qian_Fine-Grained_Visual_Categorization_2015_CVPR_paper.html
AUTHORS: Qi Qian, Rong Jin, Shenghuo Zhu, Yuanqing Lin
HIGHLIGHT: To this end, we proposed a multi-stage metric learning framework that divides the large-scale high dimensional learning problem to a series of simple subproblems, achieving $O(d)$ computational complexity.

402, TITLE: Saturation-Preserving Specular Reflection Separation
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Saturation-Preserving_Specular_Reflection_2015_CVPR_paper.html
AUTHORS: Yuanliu Liu, Zejian Yuan, Nanning Zheng, Yang Wu
HIGHLIGHT: We proposed a two-step approach to solve this problem.

403, TITLE: Joint SFM and Detection Cues for Monocular 3D Localization in Road Scenes
http://openaccess.thecvf.com/content_cvpr_2015/html/Song_Joint_SFM_and_2015_CVPR_paper.html
AUTHORS: Shiyu Song, Manmohan Chandraker
HIGHLIGHT: We present a system for fast and highly accurate 3D localization of objects like cars in autonomous driving applications, using a single camera.

404, TITLE: Fisher Vectors Meet Neural Networks: A Hybrid Classification Architecture
http://openaccess.thecvf.com/content_cvpr_2015/html/Perronnin_Fisher_Vectors_Meet_2015_CVPR_paper.html
AUTHORS: Florent Perronnin, Diane Larlus
HIGHLIGHT: We propose a hybrid architecture that combines their strengths: the first unsupervised layers rely on the FV while the subsequent fully-connected supervised layers are trained with back-propagation.

405, TITLE: UniHIST: A Unified Framework for Image Restoration With Marginal Histogram Constraints
http://openaccess.thecvf.com/content_cvpr_2015/html/Mei_UniHIST_A_Unified_2015_CVPR_paper.html
AUTHORS: Xing Mei, Weiming Dong, Bao-Gang Hu, Siwei Lyu
HIGHLIGHT: In this paper, we introduce a new framework, UniHIST, to incorporate marginal histogram constraints into image restoration.

406, TITLE: Human Action Segmentation With Hierarchical Supervoxel Consistency
http://openaccess.thecvf.com/content_cvpr_2015/html/Lu_Human_Action_Segmentation_2015_CVPR_paper.html
AUTHORS: Jiasen Lu, ran Xu, Jason J. Corso
HIGHLIGHT: In this paper, we take a step in that direction and propose a hierarchical MRF model to bridge low-level video fragments with high-level human motion and appearance; novel higher-order potentials connect different levels of the supervoxel hierarchy to enforce the consistency of the human segmentation by pulling from different segment-scales.

407, TITLE: Robust Manhattan Frame Estimation From a Single RGB-D Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Ghanem_Robust_Manhattan_Frame_2015_CVPR_paper.html
AUTHORS: Bernard Ghanem, Ali Thabet, Juan Carlos Niebles, Fabian Caba Heilbron
HIGHLIGHT: This paper proposes a new framework for estimating the Manhattan Frame (MF) of an indoor scene from a single RGB-D image.

408, TITLE: Learning to Segment Under Various Forms of Weak Supervision
http://openaccess.thecvf.com/content_cvpr_2015/html/Xu_Learning_to_Segment_2015_CVPR_paper.html
AUTHORS: Jia Xu, Alexander G. Schwing, Raquel Urtasun
HIGHLIGHT: Contrasting the common theme to develop a different algorithm for each type of weak annotation, in this work, we propose a unified approach that incorporates various forms of weak supervision -- image level tags, bounding boxes, and partial labels -- to produce a pixel-wise labeling.

409, TITLE: Fast and Accurate Image Upscaling With Super-Resolution Forests
http://openaccess.thecvf.com/content_cvpr_2015/html/Schulter_Fast_and_Accurate_2015_CVPR_paper.html
AUTHORS: Samuel Schulter, Christian Leistner, Horst Bischof
HIGHLIGHT: In this paper, we propose to directly map from low to high-resolution patches using random forests.

410, TITLE: Light Field From Micro-Baseline Image Pair
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Light_Field_From_2015_CVPR_paper.html

- AUTHORS: Zhoutong Zhang, Yebin Liu, Qionghai Dai
HIGHLIGHT: We present a novel phase-based approach for reconstructing 4D light field from a micro-baseline stereo (LFS) pair.
- 411, TITLE: Efficient ConvNet-Based Marker-Less Motion Capture in General Scenes With a Low Number of Cameras
http://openaccess.thecvf.com/content_cvpr_2015/html/Elhayek_Efficient_ConvNet-Based_Marker-Less_2015_CVPR_paper.html
AUTHORS: Ahmed Elhayek, Edilson de Aguiar, Arjun Jain, Jonathan Tompson, Leonid Pishchulin, Micha Andriluka, Chris Bregler, Bernt Schiele, Christian Theobalt
HIGHLIGHT: We present a novel method for accurate marker-less capture of articulated skeleton motion of several subjects in general scenes, indoors and outdoors, even from input filmed with as few as two cameras.
- 412, TITLE: Learning Scene-Specific Pedestrian Detectors Without Real Data
http://openaccess.thecvf.com/content_cvpr_2015/html/Hattori_Learning_Scene-Specific_Pedestrian_2015_CVPR_paper.html
AUTHORS: Hironori Hattori, Vishnu Naresh Boddeti, Kris M. Kitani, Takeo Kanade
HIGHLIGHT: We propose an efficient discriminative learning method that generates a spatially-varying pedestrian appearance model that takes into account the perspective geometry of the scene.
- 413, TITLE: Deep Filter Banks for Texture Recognition and Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Cimpoi_Deep_Filter_Banks_2015_CVPR_paper.html
AUTHORS: Mircea Cimpoi, Subhransu Maji, Andrea Vedaldi
HIGHLIGHT: In this work we conduct a first study of material and describable texture attributes recognition in clutter, using a new dataset derived from the OpenSurface texture repository.
- 414, TITLE: Multiple Random Walkers and Their Application to Image Co-segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Lee_Multiple_Random_Walkers_2015_CVPR_paper.html
AUTHORS: Chulwoo Lee, Won-Dong Jang, Jae-Young Sim, Chang-Su Kim
HIGHLIGHT: A graph-based system to simulate the movements and interactions of multiple random walkers (MRW) is proposed in this work.
- 415, TITLE: Beyond the Shortest Path : Unsupervised Domain Adaptation by Sampling Subspaces Along the Spline Flow
http://openaccess.thecvf.com/content_cvpr_2015/html/Caseiro_Beyond_the_Shortest_2015_CVPR_paper.html
AUTHORS: Rui Caseiro, Joao F. Henriques, Pedro Martins, Jorge Batista
HIGHLIGHT: This is a hard problem considering the Riemannian structure of the space, but we propose a mathematically well-founded idea that enables us to solve it.
- 416, TITLE: Spherical Embedding of Inlier Silhouette Dissimilarities
http://openaccess.thecvf.com/content_cvpr_2015/html/Littwin_Spherical_Embedding_of_2015_CVPR_paper.html
AUTHORS: Etai Littwin, Hadar Averbuch-Elor, Daniel Cohen-Or
HIGHLIGHT: In this paper, we introduce a spherical embedding technique to position a given set of silhouettes of an object as observed from a set of cameras arbitrarily positioned around the object.
- 417, TITLE: Semantics-Preserving Hashing for Cross-View Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Lin_Semantics-Preserving_Hashing_for_2015_CVPR_paper.html
AUTHORS: Zijia Lin, Guiguang Ding, Mingqing Hu, Jianmin Wang
HIGHLIGHT: In this paper, we study the problem of cross-view retrieval and propose an effective Semantics-Preserving Hashing method, termed SePH.
- 418, TITLE: Object Proposal by Multi-Branch Hierarchical Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Object_Proposal_by_2015_CVPR_paper.html
AUTHORS: Chaoyang Wang, Long Zhao, Shuang Liang, Liqing Zhang, Jinyuan Jia, Yichen Wei
HIGHLIGHT: In this work, we propose a novel multi-branch hierarchical segmentation approach that alleviates such problems by learning multiple merging strategies in each step in a complementary manner, such that errors in one merging strategy could be corrected by the others.
- 419, TITLE: Ambient Occlusion via Compressive Visibility Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Ambient_Occlusion_via_2015_CVPR_paper.html
AUTHORS: Wei Yang, Yu Ji, Haiting Lin, Yang Yang, Sing Bing Kang, Jingyi Yu
HIGHLIGHT: In this paper, we present a novel computational imaging solution for recovering the ambient occlusion (AO) map of an object.

- 420, TITLE: Shape-Tailored Local Descriptors and Their Application to Segmentation and Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Khan_Shape-Tailored_Local_Descriptors_2015_CVPR_paper.html
AUTHORS: Naeemullah Khan, Marei Algarni, Anthony Yezzi, Ganesh Sundaramoorthi
HIGHLIGHT: We propose new dense descriptors for texture segmentation.
- 421, TITLE: Scalable Object Detection by Filter Compression With Regularized Sparse Coding
http://openaccess.thecvf.com/content_cvpr_2015/html/Chao_Scalable_Object_Detection_2015_CVPR_paper.html
AUTHORS: Ting-Hsuan Chao, Yen-Liang Lin, Yin-Hsi Kuo, Winston H. Hsu
HIGHLIGHT: To remedy this shortcoming, we have developed a new method called Regularized Sparse Coding which is designed to reconstruct filter functionality.
- 422, TITLE: An Improved Deep Learning Architecture for Person Re-Identification
http://openaccess.thecvf.com/content_cvpr_2015/html/Ahmed_An_Improved_Deep_2015_CVPR_paper.html
AUTHORS: Ejaz Ahmed, Michael Jones, Tim K. Marks
HIGHLIGHT: In this work we propose a method for simultaneously learning features and a corresponding similarity metric for person re-identification.
- 423, TITLE: Understanding Classifier Errors by Examining Influential Neighbors
http://openaccess.thecvf.com/content_cvpr_2015/html/Kabra_Understanding_Classifier_Errors_2015_CVPR_paper.html
AUTHORS: Mayank Kabra, Alice Robie, Kristin Branson
HIGHLIGHT: To address this problem, we propose a novel method to analyze and understand a classifier's errors.
- 424, TITLE: Riemannian Coding and Dictionary Learning: Kernels to the Rescue
http://openaccess.thecvf.com/content_cvpr_2015/html/Harandi_Riemannian_Coding_and_2015_CVPR_paper.html
AUTHORS: Mehrtash Harandi, Mathieu Salzmann
HIGHLIGHT: In this paper, we propose to make use of kernels to perform coding and dictionary learning on Riemannian manifolds.
- 425, TITLE: Scalable Structure From Motion for Densely Sampled Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Resch_Scalable_Structure_From_2015_CVPR_paper.html
AUTHORS: Benjamin Resch, Hendrik P. A. Lensch, Oliver Wang, Marc Pollefeys, Alexander Sorkine-Hornung
HIGHLIGHT: The key insight behind this paper is to effectively exploit coherence in densely sampled video input.
- 426, TITLE: Parsing Occluded People by Flexible Compositions
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Parsing_Occluded_People_2015_CVPR_paper.html
AUTHORS: Xianjie Chen, Alan L. Yuille
HIGHLIGHT: This paper presents an approach to parsing humans when there is significant occlusion.
- 427, TITLE: Joint Calibration of Ensemble of Exemplar SVMs
http://openaccess.thecvf.com/content_cvpr_2015/html/Modolo_Joint_Calibration_of_2015_CVPR_paper.html
AUTHORS: Davide Modolo, Alexander Vezhnevets, Olga Russakovsky, Vittorio Ferrari
HIGHLIGHT: We present a method for calibrating the Ensemble of Exemplar SVMs model.
- 428, TITLE: Holistic 3D Scene Understanding From a Single Geo-Tagged Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Holistic_3D_Scene_2015_CVPR_paper.html
AUTHORS: Shenlong Wang, Sanja Fidler, Raquel Urtasun
HIGHLIGHT: In this paper we are interested in exploiting geographic priors to help outdoor scene understanding.
- 429, TITLE: A Large-Scale Car Dataset for Fine-Grained Categorization and Verification
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_A_Large-Scale_Car_2015_CVPR_paper.html
AUTHORS: Linjie Yang, Ping Luo, Chen Change Loy, Xiaoou Tang
HIGHLIGHT: This paper aims to highlight vision related tasks centered around "car", which has been largely neglected by vision community in comparison to other objects.
- 430, TITLE: DeepContour: A Deep Convolutional Feature Learned by Positive-Sharing Loss for Contour Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Shen_DeepContour_A_Deep_2015_CVPR_paper.html
AUTHORS: Wei Shen, Xinggang Wang, Yan Wang, Xiang Bai, Zhijiang Zhang
HIGHLIGHT: In this work, we show that contour detection accuracy can be improved by instead making the use of the deep features learned from convolutional neural networks (CNNs).

- 431, TITLE: Convolutional Feature Masking for Joint Object and Stuff Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Dai_Convolutional_Feature_Masking_2015_CVPR_paper.html
AUTHORS: Jifeng Dai, Kaiming He, Jian Sun
HIGHLIGHT: In this paper, we propose to exploit shape information via masking convolutional features.
- 432, TITLE: A Fixed Viewpoint Approach for Dense Reconstruction of Transparent Objects
http://openaccess.thecvf.com/content_cvpr_2015/html/Han_A_Fixed_Viewpoint_2015_CVPR_paper.html
AUTHORS: Kai Han, Kwan-Yee K. Wong, Miaomiao Liu
HIGHLIGHT: In this paper, we develop a fixed viewpoint approach for dense surface reconstruction of transparent objects based on refraction of light.
- 433, TITLE: Low-Level Vision by Consensus in a Spatial Hierarchy of Regions
http://openaccess.thecvf.com/content_cvpr_2015/html/Chakrabarti_Low-Level_Vision_by_2015_CVPR_paper.html
AUTHORS: Ayan Chakrabarti, Ying Xiong, Steven J. Gortler, Todd Zickler
HIGHLIGHT: We introduce a multi-scale framework for low-level vision, where the goal is estimating physical scene values from image data---such as depth from stereo image pairs.
- 434, TITLE: Line Drawing Interpretation in a Multi-View Context
http://openaccess.thecvf.com/content_cvpr_2015/html/Favreau_Line_Drawing_Interpretation_2015_CVPR_paper.html
AUTHORS: Jean-Dominique Favreau, Florent Lafarge, Adrien Bousseau
HIGHLIGHT: We propose a labeling algorithm to tackle this problem, where some of the labels capture dominant orientations of the real scene while a free label allows the discovery of new orientations in the imaginary scene.
- 435, TITLE: Toward User-Specific Tracking by Detection of Human Shapes in Multi-Cameras
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_Toward_User-Specific_Tracking_2015_CVPR_paper.html
AUTHORS: Chun-Hao Huang, Edmond Boyer, Bibiana do Canto Angonese, Nassir Navab, Slobodan Ilic
HIGHLIGHT: In this paper, we propose a discriminative alternative for the association, that leverages random forests to infer correspondences in one shot.
- 436, TITLE: Intra-Frame Deblurring by Leveraging Inter-Frame Camera Motion
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Intra-Frame_Deblurring_by_2015_CVPR_paper.html
AUTHORS: Haichao Zhang, Jianchao Yang
HIGHLIGHT: A video deblurring method is proposed based on two observations: (i) camera motion within capture of each individual frame leads to motion blur; (ii) camera motion between frames yields inter-frame mis-alignment that can be exploited for blur removal.
- 437, TITLE: Salient Object Subitizing
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Salient_Object_Subitizing_2015_CVPR_paper.html
AUTHORS: Jianming Zhang, Shugao Ma, Mehmoosh Sameki, Stan Sclaroff, Margrit Betke, Zhe Lin, Xiaohui Shen, Brian Price, Radomir Mech
HIGHLIGHT: To study this problem, we propose a new image dataset annotated by Amazon Mechanical Turk.
- 438, TITLE: Hierarchical-PEP Model for Real-World Face Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Hierarchical-PEP_Model_for_2015_CVPR_paper.html
AUTHORS: Haoxiang Li, Gang Hua
HIGHLIGHT: Inspired by the recently proposed probabilistic elastic part (PEP) model and the success of the deep hierarchical architecture in a number of visual tasks, we propose the Hierarchical-PEP model to approach the unconstrained face recognition problem.
- 439, TITLE: The Common Self-Polar Triangle of Concentric Circles and Its Application to Camera Calibration
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_The_Common_Self-Polar_2015_CVPR_paper.html
AUTHORS: Haifei Huang, Hui Zhang, Yiu-ming Cheung
HIGHLIGHT: In this paper, we explore the properties of the common self-polar triangle, when the two conics happen to be concentric circles.
- 440, TITLE: Taking a Deeper Look at Pedestrians
http://openaccess.thecvf.com/content_cvpr_2015/html/Hosang_Taking_a_Deepier_2015_CVPR_paper.html
AUTHORS: Jan Hosang, Mohamed Omran, Rodrigo Benenson, Bernt Schiele
HIGHLIGHT: The only goal of the abstract is to the answer the question: why should I read this paper?

- 441, TITLE: Learning to Segment Moving Objects in Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Fragkiadaki_Learning_to_Segment_2015_CVPR_paper.html
AUTHORS: Katerina Fragkiadaki, Pablo Arbelaez, Panna Felsen, Jitendra Malik
HIGHLIGHT: We extend the top ranked segments into spatio-temporal tubes using random walkers on motion affinities of dense point trajectories.
- 442, TITLE: GMMCP Tracker: Globally Optimal Generalized Maximum Multi Clique Problem for Multiple Object Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Dehghan_GMMCP_Tracker_Globally_2015_CVPR_paper.html
AUTHORS: Afshin Dehghan, Shayan Modiri Assari, Mubarak Shah
HIGHLIGHT: In this paper we formulate data association as a Generalized Maximum Multi Clique problem (GMMCP).
- 443, TITLE: Learning Graph Structure for Multi-Label Image Classification via Clique Generation
http://openaccess.thecvf.com/content_cvpr_2015/html/Tan_Learning_Graph_Structure_2015_CVPR_paper.html
AUTHORS: Mingkui Tan, Qinfeng Shi, Anton van den Hengel, Chunhua Shen, Junbin Gao, Fuyuan Hu, Zhen Zhang
HIGHLIGHT: We propose a principled way to learn the structure of a graphical model by considering input features and labels, together with loss functions.
- 444, TITLE: Matrix Completion for Resolving Label Ambiguity
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Matrix_Completion_for_2015_CVPR_paper.html
AUTHORS: Ching-Hui Chen, Vishal M. Patel, Rama Chellappa
HIGHLIGHT: We propose a matrix completion-based method for predicting the actual labels from the ambiguously labeled instances, and a standard supervised classifier can learn from the disambiguated labels to classify new data.
- 445, TITLE: Video Magnification in Presence of Large Motions
http://openaccess.thecvf.com/content_cvpr_2015/html/Elgharib_Video_Magnification_in_2015_CVPR_paper.html
AUTHORS: Mohamed Elgharib, Mohamed Hefeeda, Fredo Durand, William T. Freeman
HIGHLIGHT: We present a layer-based video magnification approach that can amplify small motions within large ones.
- 446, TITLE: Flying Objects Detection From a Single Moving Camera
http://openaccess.thecvf.com/content_cvpr_2015/html/Rozantsev_Flying_Objects_Detection_2015_CVPR_paper.html
AUTHORS: Artem Rozantsev, Vincent Lepetit, Pascal Fua
HIGHLIGHT: We propose an approach to detect flying objects such as UAVs and aircrafts when they occupy a small portion of the field of view, possibly moving against complex backgrounds, and are filmed by a camera that itself moves. As the problem is relatively new, we collected two challenging datasets for UAVs and Aircrafts, which can be used as benchmarks for flying objects detection and vision-guided collision avoidance.
- 447, TITLE: Line-Based Multi-Label Energy Optimization for Fisheye Image Rectification and Calibration
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Line-Based_Multi-Label_Energy_2015_CVPR_paper.html
AUTHORS: Mi Zhang, Jian Yao, Menghan Xia, Kai Li, Yi Zhang, Yaping Liu
HIGHLIGHT: In this paper, we propose an easily implemented fisheye image rectification algorithm with line constraints in the undistorted perspective image plane.
- 448, TITLE: Adaptive Eye-Camera Calibration for Head-Worn Devices
http://openaccess.thecvf.com/content_cvpr_2015/html/Perra_Adaptive_Eye-Camera_Calibration_2015_CVPR_paper.html
AUTHORS: David Perra, Rohit Kumar Gupta, Jan-Michael Frahm
HIGHLIGHT: We present a novel, continuous, locally optimal calibration scheme for use with head-worn devices.
- 449, TITLE: Modeling Object Appearance Using Context-Conditioned Component Analysis
http://openaccess.thecvf.com/content_cvpr_2015/html/Turmukhambetov_Modeling_Object_Appearance_2015_CVPR_paper.html
AUTHORS: Daniyar Turmukhambetov, Neill D.F. Campbell, Simon J.D. Prince, Jan Kautz
HIGHLIGHT: In this work we remove the image space alignment limitations of existing subspace models by conditioning the models on a shape dependent context that allows for the complex, non-linear structure of the appearance of the visual object to be captured and shared.
- 450, TITLE: Displets: Resolving Stereo Ambiguities Using Object Knowledge
http://openaccess.thecvf.com/content_cvpr_2015/html/Guney_Displets_Resolving_Stereo_2015_CVPR_paper.html
AUTHORS: Fatma Guney, Andreas Geiger

HIGHLIGHT: In this paper, we therefore propose to regularize over larger distances using object-category specific disparity proposals (displets) which we sample using inverse graphics techniques based on a sparse disparity estimate and a semantic segmentation of the image.

451, **TITLE:** Time-to-Contact From Image Intensity
http://openaccess.thecvf.com/content_cvpr_2015/html/Watanabe_Time-to-Contact_From_Image_2015_CVPR_paper.html
AUTHORS: Yukitoshi Watanabe, Fumihiko Sakae, Jun Sato
HIGHLIGHT: In this paper, we propose a new method for computing the time-to-contact from photometric information in images.

452, **TITLE:** Transferring a Semantic Representation for Person Re-Identification and Search
http://openaccess.thecvf.com/content_cvpr_2015/html/Shi_Transferring_a_Semantic_2015_CVPR_paper.html
AUTHORS: Zhiyuan Shi, Timothy M. Hospedales, Tao Xiang
HIGHLIGHT: In this paper we present a new semantic attribute learning approach for person re-identification and search.

453, **TITLE:** Robust Video Segment Proposals With Painless Occlusion Handling
http://openaccess.thecvf.com/content_cvpr_2015/html/Wu_Robust_Video_Segment_2015_CVPR_paper.html
AUTHORS: Zhengyang Wu, Fuxin Li, Rahul Sukthankar, James M. Rehg
HIGHLIGHT: We propose a robust algorithm to generate video segment proposals.

454, **TITLE:** Face Alignment Using Cascade Gaussian Process Regression Trees
http://openaccess.thecvf.com/content_cvpr_2015/html/Lee_Face_Alignment_Using_2015_CVPR_paper.html
AUTHORS: Donghoon Lee, Hyunsin Park, Chang D. Yoo
HIGHLIGHT: In this paper, we propose a face alignment method that uses cascade Gaussian process regression trees (cGPRT) constructed by combining Gaussian process regression trees (GPRT) in a cascade stage-wise manner.

455, **TITLE:** Regularizing Max-Margin Exemplars by Reconstruction and Generative Models
http://openaccess.thecvf.com/content_cvpr_2015/html/Rubio_Regularizing_Max-Margin_Exemplars_2015_CVPR_paper.html
AUTHORS: Jose C. Rubio, Bjorn Ommer
HIGHLIGHT: To avoid this costly mining of training samples, we estimate separate generative models for negatives and positives and integrate them into a max-margin exemplar-based model.

456, **TITLE:** A Fast Algorithm for Elastic Shape Distances Between Closed Planar Curves
http://openaccess.thecvf.com/content_cvpr_2015/html/Dogan_A_Fast_Algorithm_2015_CVPR_paper.html
AUTHORS: Gunay Dogan, Javier Bernal, Charles R. Hagwood
HIGHLIGHT: We aim for large-scale shape analysis and thus propose an iterative algorithm based on the original one but with quadratic time complexity.

457, **TITLE:** Reflection Removal for In-Vehicle Black Box Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Simon_Reflection_Removal_for_2015_CVPR_paper.html
AUTHORS: Christian Simon, In Kyu Park
HIGHLIGHT: In this paper, we propose a novel method to remove the reflection on the windscreen in the in-vehicle black box videos.

458, **TITLE:** Tree Quantization for Large-Scale Similarity Search and Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Babenko_Tree_Quantization_for_2015_CVPR_paper.html
AUTHORS: Artem Babenko, Victor Lempitsky
HIGHLIGHT: We propose a new vector encoding scheme (tree quantization) that obtains lossy compact codes for high-dimensional vectors via tree-based dynamic programming.

459, **TITLE:** Integrating Parametric and Non-Parametric Models For Scene Labeling
http://openaccess.thecvf.com/content_cvpr_2015/html/Shuai_Integrating_Parametric_and_2015_CVPR_paper.html
AUTHORS: Bing Shuai, Gang Wang, Zhen Zuo, Bing Wang, Lifan Zhao
HIGHLIGHT: We adopt Convolutional Neural Networks (CNN) as our parametric model to learn discriminative features and classifiers for local patch classification.

460, **TITLE:** Mining Semantic Affordances of Visual Object Categories
http://openaccess.thecvf.com/content_cvpr_2015/html/Chao_Mining_Semantic_Affordances_2015_CVPR_paper.html
AUTHORS: Yu-Wei Chao, Zhan Wang, Rada Mihalcea, Jia Deng

HIGHLIGHT: In this paper we introduce the new problem of mining the knowledge of semantic affordance: given an object, determining whether an action can be performed on it.
We introduce a new benchmark with crowdsourced ground truth affordances on 20 PASCAL VOC object classes and 957 action classes.

461, **TITLE:** Causal Video Object Segmentation From Persistence of Occlusions
http://openaccess.thecvf.com/content_cvpr_2015/html/Taylor_Causal_Video_Object_2015_CVPR_paper.html

AUTHORS: Brian Taylor, Vasilij Karasev, Stefano Soatto

HIGHLIGHT: We highlight the challenges in determining these occluder/occluded relations and ensuring regions remain temporally consistent, propose strategies to overcome them, and introduce an efficient numerical scheme to perform the partition directly on the pixel grid, without the need for superpixelization or other preprocessing steps.

462, **TITLE:** Multiple Instance Learning for Soft Bags via Top Instances
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Multiple_Instance_Learning_2015_CVPR_paper.html

AUTHORS: Weixin Li, Nuno Vasconcelos

HIGHLIGHT: Multiple Instance Learning for Soft Bags via Top Instances

463, **TITLE:** Multiclass Semantic Video Segmentation With Object-Level Active Inference
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Multiclass_Semantic_Video_2015_CVPR_paper.html

AUTHORS: Buyu Liu, Xuming He

HIGHLIGHT: We address the problem of integrating object reasoning with supervoxel labeling in multiclass semantic video segmentation.

464, **TITLE:** Effective Face Frontalization in Unconstrained Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Hassner_Effective_Face_Frontalization_2015_CVPR_paper.html

AUTHORS: Tal Hassner, Shai Harel, Eran Paz, Roei Enbar

HIGHLIGHT: We observe that 3D face shape estimation from unconstrained photos may be a harder problem than frontalization and can potentially introduce facial misalignments.

465, **TITLE:** Action Recognition With Trajectory-Pooled Deep-Convolutional Descriptors
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Action_Recognition_With_2015_CVPR_paper.html

AUTHORS: Limin Wang, Yu Qiao, Xiaoou Tang

HIGHLIGHT: This paper presents a new video representation, called trajectory-pooled deep-convolutional descriptor (TDD), which shares the merits of both hand-crafted features and deep-learned features.

466, **TITLE:** Weakly Supervised Localization of Novel Objects Using Appearance Transfer
http://openaccess.thecvf.com/content_cvpr_2015/html/Rochan_Weakly_Supervised_Localization_2015_CVPR_paper.html

AUTHORS: Mrigank Rochan, Yang Wang

HIGHLIGHT: We propose a method for transferring the appearance models of the familiar objects to the unseen object.

467, **TITLE:** First-Person Pose Recognition Using Egocentric Workspaces
http://openaccess.thecvf.com/content_cvpr_2015/html/Rogez_First-Person_Pose_Recognition_2015_CVPR_paper.html

AUTHORS: Gregory Rogez, James S. Supancic III, Deva Ramanan

HIGHLIGHT: We propose an efficient pipeline which 1) generates synthetic workspace exemplars for training using a virtual chest-mounted camera whose intrinsic parameters match our physical camera, 2) computes perspective-aware depth features on this entire volume and 3) recognizes discrete arm+hand pose classes through a sparse multi-class SVM.

468, **TITLE:** Simultaneous Time-of-Flight Sensing and Photometric Stereo With a Single ToF Sensor
http://openaccess.thecvf.com/content_cvpr_2015/html/Ti_Simultaneous_Time-of-Flight_Sensing_2015_CVPR_paper.html

AUTHORS: Changpeng Ti, Ruigang Yang, James Davis, Zhigeng Pan

HIGHLIGHT: We present a novel system which incorporates photometric stereo with the Time-of-Flight depth sensor.

469, **TITLE:** Active Learning and Discovery of Object Categories in the Presence of Unnameable Instances
http://openaccess.thecvf.com/content_cvpr_2015/html/Kading_Active_Learning_and_2015_CVPR_paper.html

AUTHORS: Christoph Kading, Alexander Freytag, Erik Rodner, Paul Bodesheim, Joachim Denzler

HIGHLIGHT: To meet these observations, we present a variant of the expected model output change principle for active learning and discovery in the presence of unnameable instances.

470, **TITLE:** Learning to Compare Image Patches via Convolutional Neural Networks
http://openaccess.thecvf.com/content_cvpr_2015/html/Zagoruyko_Learning_to_Compare_2015_CVPR_paper.html

- AUTHORS: Sergey Zagoruyko, Nikos Komodakis
HIGHLIGHT: In this paper we show how to learn directly from image data (i.e., without resorting to manually-designed features) a general similarity function for comparing image patches, which is a task of fundamental importance for many computer vision problems.
- 471, TITLE: Watch-n-Patch: Unsupervised Understanding of Actions and Relations
http://openaccess.thecvf.com/content_cvpr_2015/html/Wu_Watch-n-Patch_Unsupervised_Understanding_2015_CVPR_paper.html
AUTHORS: Chenxia Wu, Jiemi Zhang, Silvio Savarese, Ashutosh Saxena
HIGHLIGHT: It allows us to model long-range action relations that commonly exist in the complex activity, which is challenging to capture in the previous works.
- 472, TITLE: Optimal Graph Learning With Partial Tags and Multiple Features for Image and Video Annotation
http://openaccess.thecvf.com/content_cvpr_2015/html/Gao_Optimal_Graph_Learning_2015_CVPR_paper.html
AUTHORS: Lianli Gao, Jingkuan Song, Feiping Nie, Yan Yan, Nicu Sebe, Heng Tao Shen
HIGHLIGHT: In this paper, we propose a semi-supervised annotation approach by learning an optimal graph (OGL) from multi-cues (i.e., partial tags and multiple features) which can more accurately embed the relationships among the data points.
- 473, TITLE: DeepEdge: A Multi-Scale Bifurcated Deep Network for Top-Down Contour Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Bertasius_DeepEdge_A_Multi-Scale_2015_CVPR_paper.html
AUTHORS: Gedas Bertasius, Jianbo Shi, Lorenzo Torresani
HIGHLIGHT: Contrary to traditional approaches, we show that we can invert the commonly established pipeline: instead of detecting contours with low-level cues for a higher-level recognition task, we exploit object-related features as high-level cues for contour detection.
- 474, TITLE: Picture: A Probabilistic Programming Language for Scene Perception
http://openaccess.thecvf.com/content_cvpr_2015/html/Kulkarni_Picture_A_Probabilistic_2015_CVPR_paper.html
AUTHORS: Tejas D. Kulkarni, Pushmeet Kohli, Joshua B. Tenenbaum, Vikash Mansinghka
HIGHLIGHT: Here we present Picture, a probabilistic programming language for scene understanding that allows researchers to express complex generative vision models, while automatically solving them using fast general-purpose inference machinery.
- 475, TITLE: Exploiting Uncertainty in Regression Forests for Accurate Camera Relocalization
http://openaccess.thecvf.com/content_cvpr_2015/html/Valentin_Exploiting_Uncertainty_in_2015_CVPR_paper.html
AUTHORS: Julien Valentin, Matthias Niessner, Jamie Shotton, Andrew Fitzgibbon, Shahram Izadi, Philip H. S. Torr
HIGHLIGHT: In this paper, we train a regression forest to predict mixtures of anisotropic 3D Gaussians and show how the predicted uncertainties can be taken into account for continuous pose optimization.
- 476, TITLE: Fusing Subcategory Probabilities for Texture Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Song_Fusing_Subcategory_Probabilities_2015_CVPR_paper.html
AUTHORS: Yang Song, Weidong Cai, Qing Li, Fan Zhang, David Dagan Feng, Heng Huang
HIGHLIGHT: To tackle these issues, in this paper, we propose a sub-categorization model for texture classification.
- 477, TITLE: Video Event Recognition With Deep Hierarchical Context Model
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Video_Event_Recognition_2015_CVPR_paper.html
AUTHORS: Xiaoyang Wang, Qiang Ji
HIGHLIGHT: Different from most existing context approaches that utilize context in one of the three levels through shallow models like support vector machines, or probabilistic models like BN and MRF, we propose a deep hierarchical context model that simultaneously learns and integrates context at all three levels, and holistically utilizes the integrated contexts for event recognition.
- 478, TITLE: Object-Based RGBD Image Co-Segmentation With Mutex Constraint
http://openaccess.thecvf.com/content_cvpr_2015/html/Fu_Object-Based_RGBD_Image_2015_CVPR_paper.html
AUTHORS: Huazhu Fu, Dong Xu, Stephen Lin, Jiang Liu
HIGHLIGHT: We present an object-based co-segmentation method that takes advantage of depth data and is able to correctly handle noisy images in which the common foreground object is missing.
- 479, TITLE: Associating Neural Word Embeddings With Deep Image Representations Using Fisher Vectors
http://openaccess.thecvf.com/content_cvpr_2015/html/Klein_Associating_Neural_Word_2015_CVPR_paper.html
AUTHORS: Benjamin Klein, Guy Lev, Gil Sadeh, Lior Wolf
HIGHLIGHT: In this work, we are using the Fisher Vector as a sentence representation by pooling the word2vec embedding of each word in the sentence.

- 480, TITLE: 3D Shape Estimation From 2D Landmarks: A Convex Relaxation Approach
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhou_3D_Shape_Estimation_2015_CVPR_paper.html
AUTHORS: Xiaowei Zhou, Spyridon Leonardos, Xiaoyan Hu, Kostas Daniilidis
HIGHLIGHT: In this paper, we propose a convex formulation to address this problem and develop an efficient algorithm to solve the proposed convex program.
- 481, TITLE: 3D All The Way: Semantic Segmentation of Urban Scenes From Start to End in 3D
http://openaccess.thecvf.com/content_cvpr_2015/html/Martinovic_3D_All_The_2015_CVPR_paper.html
AUTHORS: Andelo Martinovic, Jan Knopp, Hayko Riemenschneider, Luc Van Gool
HIGHLIGHT: We propose a new approach for semantic segmentation of 3D city models.
- 482, TITLE: Fast Bilateral-Space Stereo for Synthetic Defocus
http://openaccess.thecvf.com/content_cvpr_2015/html/Barron_Fast_Bilateral-Space_Stereo_2015_CVPR_paper.html
AUTHORS: Jonathan T. Barron, Andrew Adams, YiChang Shih, Carlos Hernandez
HIGHLIGHT: In this paper we present a technique for efficiently producing disparity maps using a novel optimization framework in which inference is performed in "bilateral-space".
- 483, TITLE: Large-Scale and Drift-Free Surface Reconstruction Using Online Subvolume Registration
http://openaccess.thecvf.com/content_cvpr_2015/html/Fioraio_Large-Scale_and_Drift-Free_2015_CVPR_paper.html
AUTHORS: Nicola Fioraio, Jonathan Taylor, Andrew Fitzgibbon, Luigi Di Stefano, Shahram Izadi
HIGHLIGHT: In this paper, we present a method that addresses all of these issues.
- 484, TITLE: Fast Randomized Singular Value Thresholding for Nuclear Norm Minimization
http://openaccess.thecvf.com/content_cvpr_2015/html/Oh_Fast_Randomized_Singular_2015_CVPR_paper.html
AUTHORS: Tae-Hyun Oh, Yasuyuki Matsushita, Yu-Wing Tai, In So Kweon
HIGHLIGHT: In this paper, we propose an accurate and fast approximation method for SVT, called fast randomized SVT (FRSVT), where we avoid direct computation of SVD.
- 485, TITLE: LMI-Based 2D-3D Registration: From Uncalibrated Images to Euclidean Scene
http://openaccess.thecvf.com/content_cvpr_2015/html/Paudel_LMI-Based_2D-3D_Registration_2015_CVPR_paper.html
AUTHORS: Danda Pani Paudel, Adlane Haded, Cedric Demonceaux, Pascal Vasseur
HIGHLIGHT: Two registration algorithms, one exploiting the scene's structure and the other concerned with robustness, are presented.
- 486, TITLE: Clique-Graph Matching by Preserving Global & Local Structure
http://openaccess.thecvf.com/content_cvpr_2015/html/Nie_Clique-Graph_Matching_by_2015_CVPR_paper.html
AUTHORS: Wei-Zhi Nie, An-An Liu, Zan Gao, Yu-Ting Su
HIGHLIGHT: This paper originally proposes the clique-graph and further presents a clique-graph matching method by preserving global and local structures.
- 487, TITLE: Appearance-Based Gaze Estimation in the Wild
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Appearance-Based_Gaze_Estimation_2015_CVPR_paper.html
AUTHORS: Xucong Zhang, Yusuke Sugano, Mario Fritz, Andreas Bulling
HIGHLIGHT: In this work we study appearance-based gaze estimation in the wild.
We present the MPIIGaze dataset that contains 213,659 images we collected from 15 participants during natural everyday laptop use over more than three months.
- 488, TITLE: One-Day Outdoor Photometric Stereo via Skylight Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Jung_One-Day_Outdoor_Photometric_2015_CVPR_paper.html
AUTHORS: Jiyoung Jung, Joon-Young Lee, In So Kweon
HIGHLIGHT: We present an outdoor photometric stereo method using images captured in a single day.
- 489, TITLE: A New Retraction for Accelerating the Riemannian Three-Factor Low-Rank Matrix Completion Algorithm
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_A_New_Retraction_2015_CVPR_paper.html
AUTHORS: Zhizhong Li, Deli Zhao, Zhouchen Lin, Edward Y. Chang
HIGHLIGHT: We address this issue by proposing a new retrac with a minimizing property.
- 490, TITLE: Heteroscedastic Max-Min Distance Analysis
http://openaccess.thecvf.com/content_cvpr_2015/html/Su_Heteroscedastic_Max-Min_Distance_2015_CVPR_paper.html
AUTHORS: Bing Su, Xiaoqing Ding, Changsong Liu, Ying Wu

HIGHLIGHT: This paper proposes Heteroscedastic MMDA (HMMDA) methods that explore the discriminative information in the difference of intra-class scatters for dimensionality reduction.

491, **TITLE:** Sparse Composite Quantization
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Sparse_Composite_Quantization_2015_CVPR_paper.html
AUTHORS: Ting Zhang, Guo-Jun Qi, Jinhui Tang, Jingdong Wang
HIGHLIGHT: To address this problem, we develop a novel approach, called sparse composite quantization, which constructs sparse dictionaries.

492, **TITLE:** Sparse Representation Classification With Manifold Constraints Transfer
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Sparse_Representation_Classification_2015_CVPR_paper.html
AUTHORS: Baochang Zhang, Alessandro Perina, Vittorio Murino, Alessio Del Bue
HIGHLIGHT: In this paper we leverage the specific structure of data in order to improve recognition accuracies in general recognition tasks.

493, **TITLE:** CIDER: Consensus-Based Image Description Evaluation
http://openaccess.thecvf.com/content_cvpr_2015/html/Vedantam_CIDER_Consensus-Based_Image_2015_CVPR_paper.html
AUTHORS: Ramakrishna Vedantam, C. Lawrence Zitnick, Devi Parikh
HIGHLIGHT: We propose a novel paradigm for evaluating image descriptions that uses human consensus.

494, **TITLE:** Joint Inference of Groups, Events and Human Roles in Aerial Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Shu_Joint_Inference_of_2015_CVPR_paper.html
AUTHORS: Tianmin Shu, Dan Xie, Brandon Rothrock, Sinisa Todorovic, Song Chun Zhu
HIGHLIGHT: We propose a novel framework aimed at conducting joint inference of the above tasks, as reasoning about each in isolation typically fails in our setting.

495, **TITLE:** Photometric Stereo With Near Point Lighting: A Solution by Mesh Deformation
http://openaccess.thecvf.com/content_cvpr_2015/html/Xie_Photometric_Stereo_With_2015_CVPR_paper.html
AUTHORS: Wuyuan Xie, Chengkai Dai, Charlie C. L. Wang
HIGHLIGHT: We tackle the problem of photometric stereo under near point lighting in this paper.

496, **TITLE:** Efficient Label Collection for Unlabeled Image Datasets
http://openaccess.thecvf.com/content_cvpr_2015/html/Wigness_Efficient_Label_Collection_2015_CVPR_paper.html
AUTHORS: Maggie Wigness, Bruce A. Draper, J. Ross Beveridge
HIGHLIGHT: We introduce a technique that searches for structural change in hierarchically clustered data to identify a set of clusters that span a spectrum of visual concept granularities.

497, **TITLE:** Separating Objects and Clutter in Indoor Scenes
http://openaccess.thecvf.com/content_cvpr_2015/html/Khan_Separating_Objects_and_2015_CVPR_paper.html
AUTHORS: Salman H. Khan, Xuming He, Mohammed Bennamoun, Ferdous Sohel, Roberto Togneri
HIGHLIGHT: We propose to solve both of these problems in a joint framework using RGBD images of indoor scenes.

498, **TITLE:** FaLRR: A Fast Low Rank Representation Solver
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiao_FaLRR_A_Fast_2015_CVPR_paper.html
AUTHORS: Shijie Xiao, Wen Li, Dong Xu, Dacheng Tao
HIGHLIGHT: In this paper, we develop a fast LRR solver called FaLRR, by reformulating LRR as a new optimization problem with regard to factorized data (which is obtained by skinny SVD of the original data matrix).

499, **TITLE:** Simulating Makeup Through Physics-Based Manipulation of Intrinsic Image Layers
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Simulating_Makeup_Through_2015_CVPR_paper.html
AUTHORS: Chen Li, Kun Zhou, Stephen Lin
HIGHLIGHT: We present a method for simulating makeup in a face image.

500, **TITLE:** Correlation Filters With Limited Boundaries
http://openaccess.thecvf.com/content_cvpr_2015/html/Galoogahi_Correlation_Filters_With_2015_CVPR_paper.html
AUTHORS: Hamed Kiani Galoogahi, Terence Sim, Simon Lucey
HIGHLIGHT: In this paper, we propose a novel approach to correlation filter estimation that: (i) takes advantage of inherent computational redundancies in the frequency domain, (ii) dramatically reduces boundary effects, and (iii) is able to implicitly exploit all possible patches densely extracted from training examples during learning process.

- 501, TITLE: Shape-Based Automatic Detection of a Large Number of 3D Facial Landmarks
http://openaccess.thecvf.com/content_cvpr_2015/html/Gilani_Shape-Based_Automatic_Detection_2015_CVPR_paper.html
AUTHORS: Syed Zulqarnain Gilani, Faisal Shafait, Ajmal Mian
HIGHLIGHT: We present an algorithm for automatic detection of a large number of anthropometric landmarks on 3D faces.
- 502, TITLE: Material Classification With Thermal Imagery
http://openaccess.thecvf.com/content_cvpr_2015/html/Saponaro_Material_Classification_With_2015_CVPR_paper.html
AUTHORS: Philip Saponaro, Scott Sorensen, Abhishek Kolagunda, Chandra Kambhamettu
HIGHLIGHT: In this work we study the use of long wave infrared (i.e. thermal) imagery for material classification. We collect a database of 21 different material classes with both color and thermal imagery. We develop a set of features that describe water permeation and heating/cooling properties, and test several variations on these methods to obtain our final classifier.
- 503, TITLE: Deeply Learned Attributes for Crowded Scene Understanding
http://openaccess.thecvf.com/content_cvpr_2015/html/Shao_Deeply_Learned_Attributes_2015_CVPR_paper.html
AUTHORS: Jing Shao, Kai Kang, Chen Change Loy, Xiaogang Wang
HIGHLIGHT: In this study, we develop a multi-task deep model to jointly learn and combine appearance and motion features for crowd understanding. To well demonstrate our deep model, we construct a new large-scale WWW Crowd dataset with 10000 videos from 8257 crowded scenes, and build an attribute set with 94 attributes on WWW.
- 504, TITLE: Learning To Look Up: Realtime Monocular Gaze Correction Using Machine Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Kononenko_Learning_To_Look_2015_CVPR_paper.html
AUTHORS: Daniil Kononenko, Victor Lempitsky
HIGHLIGHT: We revisit the well-known problem of gaze correction and present a solution based on supervised machine learning.
- 505, TITLE: Background Subtraction via Generalized Fused Lasso Foreground Modeling
http://openaccess.thecvf.com/content_cvpr_2015/html/Xin_Background_Subtraction_via_2015_CVPR_paper.html
AUTHORS: Bo Xin, Yuan Tian, Yizhou Wang, Wen Gao
HIGHLIGHT: Many background models have been proposed and achieved promising performance on public data sets.
- 506, TITLE: Mirror, Mirror on the Wall, Tell Me, Is the Error Small?
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Mirror_Mirror_on_2015_CVPR_paper.html
AUTHORS: Heng Yang, Ioannis Patras
HIGHLIGHT: In this paper we take a closer look into this issue.
- 507, TITLE: Beyond Short Snippets: Deep Networks for Video Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Ng_Beyond_Short_Snippets_2015_CVPR_paper.html
AUTHORS: Joe Yue-Hei Ng, Matthew Hausknecht, Sudheendra Vijayanarasimhan, Oriol Vinyals, Rajat Monga, George Toderici
HIGHLIGHT: We propose two methods capable of handling full length videos.
- 508, TITLE: segDeepM: Exploiting Segmentation and Context in Deep Neural Networks for Object Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhu_segDeepM_Exploiting_Segmentation_2015_CVPR_paper.html
AUTHORS: Yukun Zhu, Raquel Urtasun, Ruslan Salakhutdinov, Sanja Fidler
HIGHLIGHT: In this paper, we propose an approach that exploits object segmentation in order to improve the accuracy of object detection.
- 509, TITLE: Situational Object Boundary Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Uijlings_Situational_Object_Boundary_2015_CVPR_paper.html
AUTHORS: Jasper R. R. Uijlings, Vittorio Ferrari
HIGHLIGHT: We apply the corresponding situational object boundary detectors, and fuse them based on the classification probabilities.
- 510, TITLE: Real-Time 3D Head Pose and Facial Landmark Estimation From Depth Images Using Triangular Surface Patch Features
http://openaccess.thecvf.com/content_cvpr_2015/html/Papazov_Real-Time_3D_Head_2015_CVPR_paper.html
AUTHORS: Chavdar Papazov, Tim K. Marks, Michael Jones

HIGHLIGHT: We present a real-time system for 3D head pose estimation and facial landmark localization using a commodity depth sensor.

511, **TITLE:** Aligning 3D Models to RGB-D Images of Cluttered Scenes
http://openaccess.thecvf.com/content_cvpr_2015/html/Gupta_Aligning_3D_Models_2015_CVPR_paper.html
AUTHORS: Saurabh Gupta, Pablo Arbelaez, Ross Girshick, Jitendra Malik
HIGHLIGHT: The goal of this work is to represent objects in an RGB-D scene with corresponding 3D models from a library.

512, **TITLE:** A Stable Multi-Scale Kernel for Topological Machine Learning
http://openaccess.thecvf.com/content_cvpr_2015/html/Reininghaus_A_Stable_Multi-Scale_2015_CVPR_paper.html
AUTHORS: Jan Reininghaus, Stefan Huber, Ulrich Bauer, Roland Kwitt
HIGHLIGHT: In this work, we establish such a connection by designing a multi-scale kernel for persistence diagrams, a stable summary representation of topological features in data.

513, **TITLE:** The Treasure Beneath Convolutional Layers: Cross-Convolutional-Layer Pooling for Image Classification
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_The_Treasure_Beneath_2015_CVPR_paper.html
AUTHORS: Lingqiao Liu, Chunhua Shen, Anton van den Hengel
HIGHLIGHT: This is achieved by adopting a new technique proposed in this paper called cross-convolutional-layer pooling.

514, **TITLE:** Face Video Retrieval With Image Query via Hashing Across Euclidean Space and Riemannian Manifold
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Face_Video_Retrieval_2015_CVPR_paper.html
AUTHORS: Yan Li, Ruiping Wang, Zhiwu Huang, Shiguang Shan, Xilin Chen
HIGHLIGHT: Specifically, we propose Hashing across Euclidean space and Riemannian manifold (HER) by deriving a unified framework to firstly embed the two spaces into corresponding reproducing kernel Hilbert spaces, and then iteratively optimize the intra- and inter-space Hamming distances in a maxmargin framework to learn the hash functions for the two spaces.

515, **TITLE:** EgoSampling: Fast-Forward and Stereo for Egocentric Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Poleg_EgoSampling_Fast-Forward_and_2015_CVPR_paper.html
AUTHORS: Yair Poleg, Tavi Halperin, Chetan Arora, Shmuel Peleg
HIGHLIGHT: We propose EgoSampling, an adaptive frame sampling that gives more stable fast forwarded videos.

516, **TITLE:** Social Saliency Prediction
http://openaccess.thecvf.com/content_cvpr_2015/html/Park_Social_Saliency_Prediction_2015_CVPR_paper.html
AUTHORS: Hyun Soo Park, Jianbo Shi
HIGHLIGHT: This paper presents a method to predict social saliency, the likelihood of joint attention, given an input image or video by leveraging the social interaction data captured by first person cameras.

517, **TITLE:** Beyond Principal Components: Deep Boltzmann Machines for Face Modeling
http://openaccess.thecvf.com/content_cvpr_2015/html/Duong_Beyond_Principal_Components_2015_CVPR_paper.html
AUTHORS: Chi Nhan Duong, Khoa Luu, Kha Gia Quach, Tien D. Bui
HIGHLIGHT: This paper presents a novel Deep Appearance Models (DAMs) approach, an efficient replacement for AAMs, to accurately capture both shape and texture of face images under large variations.

518, **TITLE:** Statistical Inference Models for Image Datasets With Systematic Variations
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Statistical_Inference_Models_2015_CVPR_paper.html
AUTHORS: Won Hwa Kim, Barbara B. Bendlin, Moo K. Chung, Sterling C. Johnson, Vikas Singh
HIGHLIGHT: Motivated by this scenario, the goal of this paper is to develop a unified statistical solution to the problem of systematic variations in statistical image analysis.

519, **TITLE:** Beyond Frontal Faces: Improving Person Recognition Using Multiple Cues
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Beyond_Frontal_Faces_2015_CVPR_paper.html
AUTHORS: Ning Zhang, Manohar Paluri, Yaniv Taigman, Rob Fergus, Lubomir Bourdev
HIGHLIGHT: We propose the Pose Invariant PErson Recognition (PIPER) method, which accumulates the cues of poselet-level person recognizers trained by deep convolutional networks to discount for the pose variations, combined with a face recognizer and a global recognizer.

520, **TITLE:** Superpixel-Based Video Object Segmentation Using Perceptual Organization and Location Prior
http://openaccess.thecvf.com/content_cvpr_2015/html/Giordano_Superpixel-Based_Video_Object_2015_CVPR_paper.html
AUTHORS: Daniela Giordano, Francesca Murabito, Simone Palazzo, Concetto Spampinato

HIGHLIGHT: In this paper we present an approach for segmenting objects in videos taken in complex scenes with multiple and different targets.

521, **TITLE:** Robust Image Filtering Using Joint Static and Dynamic Guidance
http://openaccess.thecvf.com/content_cvpr_2015/html/Ham_Robust_Image_Filtering_2015_CVPR_paper.html
AUTHORS: Bumsub Ham, Minsu Cho, Jean Ponce
HIGHLIGHT: We address this problem by jointly leveraging structural information of guidance and input images.

522, **TITLE:** Solving Multiple Square Jigsaw Puzzles With Missing Pieces
http://openaccess.thecvf.com/content_cvpr_2015/html/Paikin_Solving_Multiple_Square_2015_CVPR_paper.html
AUTHORS: Genady Paikin, Ayellet Tal
HIGHLIGHT: In this paper we consider the square jigsaw puzzle problem, where the goal is to reconstruct the image from a set of non-overlapping, unordered, square puzzle parts.

523, **TITLE:** A Dynamic Convolutional Layer for Short Range Weather Prediction
http://openaccess.thecvf.com/content_cvpr_2015/html/Klein_A_Dynamic_Convolutional_2015_CVPR_paper.html
AUTHORS: Benjamin Klein, Lior Wolf, Yehuda Afek
HIGHLIGHT: We present a new deep network layer called "Dynamic Convolutional Layer" which is a generalization of the convolutional layer.

524, **TITLE:** SWIFT: Sparse Withdrawal of Inliers in a First Trial
http://openaccess.thecvf.com/content_cvpr_2015/html/Jaberi_SWIFT_Sparse-Withdrawal_2015_CVPR_paper.html
AUTHORS: Maryam Jaberi, Marianna Pensky, Hassan Foroosh
HIGHLIGHT: We show that the problem can be modeled using a multivariate hypergeometric distribution, and derive accurate mathematical bounds to determine a tight approximation to the sample size, leading thus to a sparse sampling strategy.

525, **TITLE:** VIP: Finding Important People in Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Mathialagan_VIP_Finding_Important_2015_CVPR_paper.html
AUTHORS: Clint Solomon Mathialagan, Andrew C. Gallagher, Dhruv Batra
HIGHLIGHT: We introduce a measure of importance of people in images and investigate the correlation between importance and visual saliency.

526, **TITLE:** Dataset Fingerprints: Exploring Image Collections Through Data Mining
http://openaccess.thecvf.com/content_cvpr_2015/html/Rematas_Dataset_Fingerprints_Exploring_2015_CVPR_paper.html
AUTHORS: Konstantinos Rematas, Basura Fernando, Frank Dellaert, Tinne Tuytelaars
HIGHLIGHT: In this paper, we propose dataset fingerprints, a new and powerful method based on data mining that extracts meaningful patterns from a set of images.

527, **TITLE:** Transport-Based Single Frame Super Resolution of Very Low Resolution Face Images
http://openaccess.thecvf.com/content_cvpr_2015/html/Kolouri_Transport-Based_Single_Frame_2015_CVPR_paper.html
AUTHORS: Soheil Kolouri, Gustavo K. Rohde
HIGHLIGHT: Here we describe a single frame super resolution technique that uses a transport-based formulation of the problem.

528, **TITLE:** 3D Reconstruction in the Presence of Glasses by Acoustic and Stereo Fusion
http://openaccess.thecvf.com/content_cvpr_2015/html/Ye_3D_Reconstruction_in_2015_CVPR_paper.html
AUTHORS: Mao Ye, Yu Zhang, Ruiqiang Yang, Dinesh Manocha
HIGHLIGHT: We present a practical and inexpensive method to reconstruct 3D scenes that include piece-wise planar transparent objects.

529, **TITLE:** Deep Sparse Representation for Robust Image Registration
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Deep_Sparse_Representation_2015_CVPR_paper.html
AUTHORS: Yeqing Li, Chen Chen, Fei Yang, Junzhou Huang
HIGHLIGHT: In this paper, we propose a novel similarity measure for registration of two or more images.

530, **TITLE:** Real-Time Part-Based Visual Tracking via Adaptive Correlation Filters
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Real-Time_Part-Based_Visual_2015_CVPR_paper.html
AUTHORS: Ting Liu, Gang Wang, Qingxiang Yang
HIGHLIGHT: In this paper, we propose a novel tracking method which track objects based on parts with multiple correlation filters.

- 531, TITLE: Beyond Spatial Pooling: Fine-Grained Representation Learning in Multiple Domains
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Beyond_Spatial_Pooling_2015_CVPR_paper.html
AUTHORS: Chi Li, Austin Reiter, Gregory D. Hager
HIGHLIGHT: In this paper, we formulate a probabilistic framework for analyzing the performance of pooling. In addition, we present a new dataset for industrial objects to further validate the effectiveness of our approach versus other state-of-the-art approaches for object recognition using RGB-D data.
- 532, TITLE: HC-Search for Structured Prediction in Computer Vision
http://openaccess.thecvf.com/content_cvpr_2015/html/Lam_HC-Search_for_Structured_2015_CVPR_paper.html
AUTHORS: Michael Lam, Janardhan Rao Doppa, Sinisa Todorovic, Thomas G. Dietterich
HIGHLIGHT: To this end, we introduce a search operator suited to the vision domain that improves a candidate solution by probabilistically sampling likely object configurations in the scene from the hierarchical Berkeley segmentation.
- 533, TITLE: Revisiting Kernelized Locality-Sensitive Hashing for Improved Large-Scale Image Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Jiang_Revisiting_Kernelized_Locality-Sensitive_2015_CVPR_paper.html
AUTHORS: Ke Jiang, Qichao Que, Brian Kulis
HIGHLIGHT: We present a simple but powerful reinterpretation of kernelized locality-sensitive hashing (KLSH), a general and popular method developed in the vision community for performing approximate nearest-neighbor searches in an arbitrary reproducing kernel Hilbert space (RKHS).
- 534, TITLE: High-Speed Hyperspectral Video Acquisition With a Dual-Camera Architecture
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_High-Speed_Hyperspectral_Video_2015_CVPR_paper.html
AUTHORS: Lizhi Wang, Zhiwei Xiong, Dahua Gao, Guangming Shi, Wenjun Zeng, Feng Wu
HIGHLIGHT: We propose a novel dual-camera design to acquire 4D high-speed hyperspectral (HS) videos with high spatial and spectral resolution.
- 535, TITLE: More About VLAD: A Leap From Euclidean to Riemannian Manifolds
http://openaccess.thecvf.com/content_cvpr_2015/html/Faraki_More_About_VLAD_2015_CVPR_paper.html
AUTHORS: Masoud Faraki, Mehrtash T. Harandi, Fatih Porikli
HIGHLIGHT: We provide a comprehensive mathematical framework that formulates the aggregation problem of such manifold data into an elegant solution.
- 536, TITLE: Camera Intrinsic Blur Kernel Estimation: A Reliable Framework
http://openaccess.thecvf.com/content_cvpr_2015/html/Mosleh_Camera_Intrinsic_Blur_2015_CVPR_paper.html
AUTHORS: Ali Mosleh, Paul Green, Emmanuel Onzon, Isabelle Begin, J.M. Pierre Langlois
HIGHLIGHT: This paper presents a reliable non-blind method to measure intrinsic lens blur.
- 537, TITLE: Classifier Learning With Hidden Information
http://openaccess.thecvf.com/content_cvpr_2015/html/Wang_Classifier_Learning_With_2015_CVPR_paper.html
AUTHORS: Ziheng Wang, Qiang Ji
HIGHLIGHT: To this end, we propose two general approaches to exploit different types of hidden information to improve different classifiers.
- 538, TITLE: Single Target Tracking Using Adaptive Clustered Decision Trees and Dynamic Multi-Level Appearance Models
http://openaccess.thecvf.com/content_cvpr_2015/html/Xiao_Single_Target_Tracking_2015_CVPR_paper.html
AUTHORS: Jingjing Xiao, Rustam Stolkin, Ales Leonardis
HIGHLIGHT: This paper presents a method for single target tracking of arbitrary objects in challenging video sequences.
- 539, TITLE: Simultaneous Video Defogging and Stereo Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Simultaneous_Video_Defogging_2015_CVPR_paper.html
AUTHORS: Zhuwen Li, Ping Tan, Robby T. Tan, Daping Zou, Steven Zhiying Zhou, Loong-Fah Cheong
HIGHLIGHT: We present a method to jointly estimate scene depth and recover the clear latent image from a foggy video sequence.
- 540, TITLE: Face Alignment by Coarse-to-Fine Shape Searching
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhu_Face_Alignment_by_2015_CVPR_paper.html
AUTHORS: Shizhan Zhu, Cheng Li, Chen Change Loy, Xiaoou Tang
HIGHLIGHT: We present a novel face alignment framework based on coarse-to-fine shape searching.

- 541, TITLE: Learning Deep Representations for Ground-to-Aerial Geolocalization
http://openaccess.thecvf.com/content_cvpr_2015/html/Lin_Learning_Deep_Representations_2015_CVPR_paper.html
AUTHORS: Tsung-Yi Lin, Yin Cui, Serge Belongie, James Hays
HIGHLIGHT: In this work, we localize a ground-level query image by matching it to a reference database of aerial imagery.
- 542, TITLE: Unsupervised Simultaneous Orthogonal Basis Clustering Feature Selection
http://openaccess.thecvf.com/content_cvpr_2015/html/Han_Unsupervised_Simultaneous_Orthogonal_2015_CVPR_paper.html
AUTHORS: Dongyoon Han, Junmo Kim
HIGHLIGHT: In this paper, we propose a novel unsupervised feature selection method: Simultaneous Orthogonal basis Clustering Feature Selection (SOCFS).
- 543, TITLE: Space-Time Tree Ensemble for Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Ma_Space-Time_Tree_Ensemble_2015_CVPR_paper.html
AUTHORS: Shugao Ma, Leonid Sigal, Stan Sclaroff
HIGHLIGHT: We explore ensembles of hierarchical spatio-temporal trees, discovered directly from training data, to model these structures for action recognition.
- 544, TITLE: Subgraph Decomposition for Multi-Target Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Tang_Subgraph_Decomposition_for_2015_CVPR_paper.html
AUTHORS: Siyu Tang, Bjoern Andres, Miykhaylo Andriluka, Bernt Schiele
HIGHLIGHT: Embracing this observation, we propose to link and cluster plausible detections jointly across space and time.
- 545, TITLE: Understanding Image Structure via Hierarchical Shape Parsing
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Understanding_Image_Structure_2015_CVPR_paper.html
AUTHORS: Xian-Ming Liu, Rongrong Ji, Changhu Wang, Wei Liu, Bineng Zhong, Thomas S. Huang
HIGHLIGHT: In this paper, we focus on understanding image structure inspired by the "simple-to-complex" biological evidence.
- 546, TITLE: Coarse-To-Fine Region Selection and Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Yang_Coarse-To-Fine_Region_Selection_2015_CVPR_paper.html
AUTHORS: Yanchao Yang, Zhaojin Lu, Ganesh Sundaramoorthi
HIGHLIGHT: We present a new approach to wide baseline matching.
- 547, TITLE: Label Consistent Quadratic Surrogate Model for Visual Saliency Prediction
http://openaccess.thecvf.com/content_cvpr_2015/html/Luo_Label_Consistent_Quadratic_2015_CVPR_paper.html
AUTHORS: Yan Luo, Yongkang Wong, Qi Zhao
HIGHLIGHT: To address these problems, we proposed a new learning based saliency model, namely Label Consistent Quadratic Surrogate algorithm, which employs an iterative online algorithm to learn a sparse dictionary with label consistent constraint.
- 548, TITLE: Subgraph Matching Using Compactness Prior for Robust Feature Correspondence
http://openaccess.thecvf.com/content_cvpr_2015/html/Suh_Subgraph_Matching_Using_2015_CVPR_paper.html
AUTHORS: Yumin Suh, Kamil Adamczewski, Kyoung Mu Lee
HIGHLIGHT: To solve the new optimization problem, we propose a meta-algorithm based on Markov chain Monte Carlo.
- 549, TITLE: Pedestrian Detection Aided by Deep Learning Semantic Tasks
http://openaccess.thecvf.com/content_cvpr_2015/html/Tian_Pedestrian_Detection_Aided_2015_CVPR_paper.html
AUTHORS: Yonglong Tian, Ping Luo, Xiaogang Wang, Xiaoou Tang
HIGHLIGHT: Rather than expensively annotating scene attributes, we transfer attributes information from existing scene segmentation datasets to the pedestrian dataset, by proposing a novel deep model to learn high-level features from multiple tasks and multiple data sources.
- 550, TITLE: Multihypothesis Trajectory Analysis for Robust Visual Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Lee_Multihypothesis_Trajectory_Analysis_2015_CVPR_paper.html
AUTHORS: Dae-Youn Lee, Jae-Young Sim, Chang-Su Kim
HIGHLIGHT: The notion of multihypothesis trajectory analysis (MTA) for robust visual tracking is proposed in this work.
- 551, TITLE: Domain-Size Pooling in Local Descriptors: DSP-SIFT

- http://openaccess.thecvf.com/content_cvpr_2015/html/Dong_Domain-Size_Pooling_in_2015_CVPR_paper.html
AUTHORS: Jingming Dong, Stefano Soatto
HIGHLIGHT: We introduce a simple modification of local image descriptors, such as SIFT, based on pooling gradient orientations across different domain sizes, in addition to spatial locations.
- 552, TITLE: Object Detection by Labeling Superpixels
http://openaccess.thecvf.com/content_cvpr_2015/html/Yan_Object_Detection_by_2015_CVPR_paper.html
AUTHORS: Junjie Yan, Yinan Yu, Xiangyu Zhu, Zhen Lei, Stan Z. Li
HIGHLIGHT: Specially, this paper takes object detection as a multi-label superpixel labeling problem by minimizing an energy function.
- 553, TITLE: Fast 2D Border Ownership Assignment
http://openaccess.thecvf.com/content_cvpr_2015/html/Teo_Fast_2D_Border_2015_CVPR_paper.html
AUTHORS: Ching Teo, Cornelia Fermuller, Yiannis Aloimonos
HIGHLIGHT: A method for efficient border ownership assignment in 2D images is proposed.
- 554, TITLE: From Single Image Query to Detailed 3D Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Schonberger_From_Single_Image_2015_CVPR_paper.html
AUTHORS: Johannes L. Schonberger, Filip Radenovic, Ondrej Chum, Jan-Michael Frahm
HIGHLIGHT: In this paper, we propose a joint reconstruction and retrieval system that maintains the scalability of large-scale Structure-from-Motion systems while also recovering the often lost ability of reconstructing fine details of the scene.
- 555, TITLE: Fast and Flexible Convolutional Sparse Coding
http://openaccess.thecvf.com/content_cvpr_2015/html/Heide_Fast_and_Flexible_2015_CVPR_paper.html
AUTHORS: Felix Heide, Wolfgang Heidrich, Gordon Wetzstein
HIGHLIGHT: Fast and Flexible Convolutional Sparse Coding
- 556, TITLE: Iteratively Reweighted Graph Cut for Multi-Label MRFs With Non-Convex Priors
http://openaccess.thecvf.com/content_cvpr_2015/html/Ajanthan_Iteratively_Reweighted_Graph_2015_CVPR_paper.html
AUTHORS: Thalaiyasingam Ajanthan, Richard Hartley, Mathieu Salzmann, Hongdong Li
HIGHLIGHT: To tackle this, we introduce an algorithm that iteratively approximates the original energy with an appropriately weighted surrogate energy that is easier to minimize.
- 557, TITLE: Pairwise Geometric Matching for Large-Scale Object Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Pairwise_Geometric_Matching_2015_CVPR_paper.html
AUTHORS: Xinchao Li, Martha Larson, Alan Hanjalic
HIGHLIGHT: In this paper, we consider the pairwise geometric relations between correspondences and propose a strategy to incorporate these relations at significantly reduced computational cost, which makes it suitable for large-scale object retrieval.
- 558, TITLE: Deep Convolutional Neural Fields for Depth Estimation From a Single Image
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Deep_Convolutional_Neural_2015_CVPR_paper.html
AUTHORS: Fayao Liu, Chunhua Shen, Guosheng Lin
HIGHLIGHT: Therefore, we in this paper present a deep convolutional neural field model for estimating depths from a single image, aiming to jointly explore the capacity of deep CNN and continuous CRF.
- 559, TITLE: Data-Driven Sparsity-Based Restoration of JPEG-Compressed Images in Dual Transform-Pixel Domain
http://openaccess.thecvf.com/content_cvpr_2015/html/Liu_Data-Driven_Sparsity-Based_Restoration_2015_CVPR_paper.html
AUTHORS: Xianming Liu, Xiaolin Wu, Jiantao Zhou, Debin Zhao
HIGHLIGHT: This papers presents a novel approach to restoring JPEG-compressed images.
- 560, TITLE: TVSum: Summarizing Web Videos Using Titles
http://openaccess.thecvf.com/content_cvpr_2015/html/Song_TVSum_Summarizing_Web_2015_CVPR_paper.html
AUTHORS: Yale Song, Jordi Vallmitjana, Amanda Stent, Alejandro Jaimés
HIGHLIGHT: We present TVSum, an unsupervised video summarization framework that uses title-based image search results to find visually important shots.
We introduce a new benchmark dataset, TVSum50, that contains 50 videos and their shot-level importance scores annotated via crowdsourcing.
- 561, TITLE: Understanding Deep Image Representations by Inverting Them
http://openaccess.thecvf.com/content_cvpr_2015/html/Mahendran_Understanding_Deep_Image_2015_CVPR_paper.html

AUTHORS: Aravindh Mahendran, Andrea Vedaldi
HIGHLIGHT: In this paper we conduct a direct analysis of the visual information contained in representations by asking the following question: given an encoding of an image, to which extent is it possible to reconstruct the image itself?

562, TITLE: Single Image Super-Resolution From Transformed Self-Exemplars
http://openaccess.thecvf.com/content_cvpr_2015/html/Huang_Single_Image_Super-Resolution_2015_CVPR_paper.html
AUTHORS: Jia-Bin Huang, Abhishek Singh, Narendra Ahuja
HIGHLIGHT: In this paper, we extend self-similarity based SR to overcome this drawback.

563, TITLE: Constrained Planar Cuts - Object Partitioning for Point Clouds
http://openaccess.thecvf.com/content_cvpr_2015/html/Schoeler_Constrained_Planar_Cuts_2015_CVPR_paper.html
AUTHORS: Markus Schoeler, Jeremie Papon, Florentin Worgotter
HIGHLIGHT: Here we introduce a bottom-up method for segmenting 3D point clouds into functional parts which does not require supervision and achieves equally good results.

564, TITLE: A Weighted Sparse Coding Framework for Saliency Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_A_Weighted_Sparse_2015_CVPR_paper.html
AUTHORS: Nianyi Li, Bilin Sun, Jingyi Yu
HIGHLIGHT: In this paper, we present a unified saliency detection framework for handling heterogenous types of input data.

565, TITLE: Handling Motion Blur in Multi-Frame Super-Resolution
http://openaccess.thecvf.com/content_cvpr_2015/html/Ma_Handling_Motion_Blur_2015_CVPR_paper.html
AUTHORS: Ziyang Ma, Renjie Liao, Xin Tao, Li Xu, Jiaya Jia, Enhua Wu
HIGHLIGHT: Our method proposed in this paper tackles this issue by optimally searching least blurred pixels in MFSR.

566, TITLE: Approximate Nearest Neighbor Fields in Video
http://openaccess.thecvf.com/content_cvpr_2015/html/Ben-Zrihem_Approximate_Nearest_Neighbor_2015_CVPR_paper.html
AUTHORS: Nir Ben-Zrihem, Lihi Zelnik-Manor
HIGHLIGHT: We introduce RIANN (Ring Intersection Approximate Nearest Neighbor search), an algorithm for matching patches of a video to a set of reference patches in real-time.

567, TITLE: Inverting RANSAC: Global Model Detection via Inlier Rate Estimation
http://openaccess.thecvf.com/content_cvpr_2015/html/Litman_Inverting_RANSAC_Global_2015_CVPR_paper.html
AUTHORS: Roei Litman, Simon Korman, Alexander Bronstein, Shai Avidan
HIGHLIGHT: This work presents a novel approach for detecting inliers in a given set of correspondences (matches).

568, TITLE: Robust Multi-Image Based Blind Face Hallucination
http://openaccess.thecvf.com/content_cvpr_2015/html/Jin_Robust_Multi-Image_Based_2015_CVPR_paper.html
AUTHORS: Yonggang Jin, Christos-Savvas Bouganis
HIGHLIGHT: This paper proposes a robust multi-image based blind face hallucination framework to super-resolve LR faces.

569, TITLE: On Learning Optimized Reaction Diffusion Processes for Effective Image Restoration
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_On_Learning_Optimized_2015_CVPR_paper.html
AUTHORS: Yunjin Chen, Wei Yu, Thomas Pock
HIGHLIGHT: In this work, we propose an effective approach with both high computational efficiency and high restoration quality.

570, TITLE: A Flexible Tensor Block Coordinate Ascent Scheme for Hypergraph Matching
http://openaccess.thecvf.com/content_cvpr_2015/html/Nguyen_A_Flexible_Tensor_2015_CVPR_paper.html
AUTHORS: Quynh Nguyen, Antoine Gautier, Matthias Hein
HIGHLIGHT: In this paper we propose a general framework for tensor block coordinate ascent methods for hypergraph matching.

571, TITLE: TILDE: A Temporally Invariant Learned DEtector
http://openaccess.thecvf.com/content_cvpr_2015/html/Verdie_TILDE_A_Temporally_2015_CVPR_paper.html
AUTHORS: Yannick Verdie, Kwang Yi, Pascal Fua, Vincent Lepetit
HIGHLIGHT: We introduce a learning-based approach to detect repeatable keypoints under drastic imaging changes of weather and lighting conditions to which state-of-the-art keypoint detectors are surprisingly sensitive.

- 572, TITLE: A Maximum Entropy Feature Descriptor for Age Invariant Face Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Gong_A_Maximum_Entropy_2015_CVPR_paper.html
AUTHORS: Dihong Gong, Zhifeng Li, Dacheng Tao, Jianzhuang Liu, Xuelong Li
HIGHLIGHT: In this paper, we propose a new approach to overcome the representation and matching problems in age invariant face recognition.
- 573, TITLE: Sense Discovery via Co-Clustering on Images and Text
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Sense_Discovery_via_2015_CVPR_paper.html
AUTHORS: Xinlei Chen, Alan Ritter, Abhinav Gupta, Tom Mitchell
HIGHLIGHT: We present a co-clustering framework that can be used to discover multiple semantic and visual senses of a given Noun Phrase (NP).
We introduce a challenging dataset (CMU Polysemy-30) for this problem consisting of 30 NPs (~ 5600 labeled instances out of $\sim 22K$ total instances).
- 574, TITLE: An Approximate Shading Model for Object Relighting
http://openaccess.thecvf.com/content_cvpr_2015/html/Liao_An_Approximate_Shading_2015_CVPR_paper.html
AUTHORS: Zicheng Liao, Kevin Karsch, David Forsyth
HIGHLIGHT: We propose an approximate shading model for image-based object modeling and insertion.
- 575, TITLE: Deep Domain Adaptation for Describing People Based on Fine-Grained Clothing Attributes
http://openaccess.thecvf.com/content_cvpr_2015/html/Chen_Deep_Domain_Adaptation_2015_CVPR_paper.html
AUTHORS: Qiang Chen, Junshi Huang, Rogerio Feris, Lisa M. Brown, Jian Dong, Shuicheng Yan
HIGHLIGHT: In order to bridge this gap, we propose a novel double-path deep domain adaptation network to model the data from the two domains jointly.
- 576, TITLE: A Convolutional Neural Network Cascade for Face Detection
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_A_Convolutional_Neural_2015_CVPR_paper.html
AUTHORS: Haoxiang Li, Zhe Lin, Xiaohui Shen, Jonathan Brandt, Gang Hua
HIGHLIGHT: To address these two conflicting challenges, we propose a cascade architecture built on convolutional neural networks (CNNs) with very powerful discriminative capability, while maintaining high performance.
- 577, TITLE: Visual Vibrometry: Estimating Material Properties From Small Motion in Video
http://openaccess.thecvf.com/content_cvpr_2015/html/Davis_Visual_Vibrometry_Estimating_2015_CVPR_paper.html
AUTHORS: Abe Davis, Katherine L. Bouman, Justin G. Chen, Michael Rubinstein, Fredo Durand, William T. Freeman
HIGHLIGHT: This paper connects fundamentals of vibration mechanics with computer vision techniques in order to infer material properties from small, often imperceptible motion in video.
- 578, TITLE: Jointly Learning Heterogeneous Features for RGB-D Activity Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Hu_Jointly_Learning_Heterogeneous_2015_CVPR_paper.html
AUTHORS: Jian-Fang Hu, Wei-Shi Zheng, Jianhuang Lai, Jianguo Zhang
HIGHLIGHT: In this paper, we focus on heterogeneous feature learning for RGB-D activity recognition.
- 579, TITLE: Convolutional Neural Networks at Constrained Time Cost
http://openaccess.thecvf.com/content_cvpr_2015/html/He_Convolutional_Neural_Networks_2015_CVPR_paper.html
AUTHORS: Kaiming He, Jian Sun
HIGHLIGHT: In this paper, we investigate the accuracy of CNNs under constrained time cost.
- 580, TITLE: Fine-Grained Histopathological Image Analysis via Robust Segmentation and Large-Scale Retrieval
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhang_Fine-Grained_Histopathological_Image_2015_CVPR_paper.html
AUTHORS: Xiaofan Zhang, Hai Su, Lin Yang, Shaoting Zhang
HIGHLIGHT: In this paper, we propose a robust and scalable solution to achieve this.
- 581, TITLE: L0TV: A New Method for Image Restoration in the Presence of Impulse Noise
http://openaccess.thecvf.com/content_cvpr_2015/html/Yuan_L0TV_A_New_2015_CVPR_paper.html
AUTHORS: Ganzhao Yuan, Bernard Ghanem
HIGHLIGHT: In this paper, we propose a new method, called L0TV-PADMM, which solves the TV-based restoration problem with L0-norm data fidelity.
- 582, TITLE: Modeling Video Evolution for Action Recognition
http://openaccess.thecvf.com/content_cvpr_2015/html/Fernando_Modeling_Video_Evolution_2015_CVPR_paper.html

AUTHORS: Basura Fernando, Efstratios Gavves, Jose Oramas M., Amir Ghodrati, Tinne Tuytelaars
HIGHLIGHT: In this paper we present a method to capture video-wide temporal information for action recognition.

583, TITLE: Long-Term Correlation Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Ma_Long-Term_Correlation_Tracking_2015_CVPR_paper.html
AUTHORS: Chao Ma, Xiaokang Yang, Chongyang Zhang, Ming-Hsuan Yang
HIGHLIGHT: In this paper, we address the problem of long-term visual tracking where the target objects undergo significant appearance variation due to deformation, abrupt motion, heavy occlusion and out-of-the-view.

584, TITLE: Joint Tracking and Segmentation of Multiple Targets
http://openaccess.thecvf.com/content_cvpr_2015/html/Milan_Joint_Tracking_and_2015_CVPR_paper.html
AUTHORS: Anton Milan, Laura Leal-Taixe, Konrad Schindler, Ian Reid
HIGHLIGHT: We propose a multi-target tracker that exploits low level image information and associates every (super)-pixel to a specific target or classifies it as background.

585, TITLE: RGBD-Fusion: Real-Time High Precision Depth Recovery
http://openaccess.thecvf.com/content_cvpr_2015/html/EI_RGBD-Fusion_Real-Time_High_2015_CVPR_paper.html
AUTHORS: Roy Or - El, Guy Rosman, Aaron Wetzler, Ron Kimmel, Alfred M. Bruckstein
HIGHLIGHT: We present a novel method to enhance the depth map by fusing the intensity and depth information to create more detailed range profiles.

586, TITLE: Modeling Deformable Gradient Compositions for Single-Image Super-Resolution
http://openaccess.thecvf.com/content_cvpr_2015/html/Zhu_Modeling_Deformable_Gradient_2015_CVPR_paper.html
AUTHORS: Yu Zhu, Yanning Zhang, Boyan Bonev, Alan L. Yuille
HIGHLIGHT: We propose a single-image super-resolution method based on the gradient reconstruction.

587, TITLE: Generalized Video Deblurring for Dynamic Scenes
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Generalized_Video_Deblurring_2015_CVPR_paper.html
AUTHORS: Tae Hyun Kim, Kyoung Mu Lee
HIGHLIGHT: We propose a video deblurring method to deal with general blurs inherent in dynamic scenes, contrary to other methods.

588, TITLE: Active Pictorial Structures
http://openaccess.thecvf.com/content_cvpr_2015/html/Antonakos_Active_Pictorial_Structures_2015_CVPR_paper.html
AUTHORS: Epameinondas Antonakos, Joan Alabort-i-Medina, Stefanos Zafeiriou
HIGHLIGHT: In this paper we present a novel generative deformable model motivated by Pictorial Structures (PS) and Active Appearance Models (AAMs) for object alignment in-the-wild.

589, TITLE: Ego-Surfing First-Person Videos
http://openaccess.thecvf.com/content_cvpr_2015/html/Yonetani_Ego-Surfing_First-Person_Videos_2015_CVPR_paper.html
AUTHORS: Ryo Yonetani, Kris M. Kitani, Yoichi Sato
HIGHLIGHT: We incorporate this feature into our proposed approach that computes the motion correlation over supervoxel hierarchies to localize target instances in observer videos.

590, TITLE: Visual Saliency Based on Multiscale Deep Features
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_Visual_Saliency_Based_2015_CVPR_paper.html
AUTHORS: Guanbin Li, Yizhou Yu
HIGHLIGHT: In this paper, we discover that a high-quality visual saliency model can be learned from multiscale features extracted using deep convolutional neural networks(CNN), which have had many successes in visual recognition tasks. To promote further research and evaluation of visual saliency models, we also construct a large database of 4447 challenging images and their pixelwise saliency annotation.

591, TITLE: Recovering Inner Slices of Translucent Objects by Multi-Frequency Illumination
http://openaccess.thecvf.com/content_cvpr_2015/html/Tanaka_Recovering_Inner_Slices_2015_CVPR_paper.html
AUTHORS: Kenichiro Tanaka, Yasuhiro Mukaigawa, Hiroyuki Kubo, Yasuyuki Matsushita, Yasushi Yagi
HIGHLIGHT: This paper describes a method for recovering appearance of inner slices of translucent objects.

592, TITLE: Local High-Order Regularization on Data Manifolds
http://openaccess.thecvf.com/content_cvpr_2015/html/Kim_Local_High-Order_Regularization_2015_CVPR_paper.html
AUTHORS: Kwang In Kim, James Tompkin, Hanspeter Pfister, Christian Theobalt

HIGHLIGHT: We introduce a new regularizer which is globally high order and so does not suffer from the degeneracy of the graph Laplacian regularizer, but is also sparse for efficient computation in semi-supervised learning applications.

593, **TITLE:** Fine-Grained Classification of Pedestrians in Video: Benchmark and State of the Art
http://openaccess.thecvf.com/content_cvpr_2015/html/Hall_Fine-Grained_Classification_of_2015_CVPR_paper.html
AUTHORS: David Hall, Pietro Perona
HIGHLIGHT: This dataset is designed to train and test algorithms for fine-grained categorisation of people; it is also useful for benchmarking tracking, detection and pose estimation of pedestrians.

594, **TITLE:** Curriculum Learning of Multiple Tasks
http://openaccess.thecvf.com/content_cvpr_2015/html/Pentina_Curriculum_Learning_of_2015_CVPR_paper.html
AUTHORS: Anastasia Pentina, Viktoriia Sharmanska, Christoph H. Lampert
HIGHLIGHT: In this work we propose an approach that processes multiple tasks in a sequence with sharing between subsequent tasks instead of solving all tasks jointly.

595, **TITLE:** How Many Bits Does it Take for a Stimulus to Be Salient?
http://openaccess.thecvf.com/content_cvpr_2015/html/Khatoonabadi_How_Many_Bits_2015_CVPR_paper.html
AUTHORS: Sayed Hossein Khatoonabadi, Nuno Vasconcelos, Ivan V. Bajic, Yufeng Shan
HIGHLIGHT: We propose a direct measure of this quantity, namely the number of bits required by an optimal video compressor to encode a given video patch, and show that features derived from this measure are highly predictive of eye fixations.

596, **TITLE:** Discrete Optimization of Ray Potentials for Semantic 3D Reconstruction
http://openaccess.thecvf.com/content_cvpr_2015/html/Savinov_Discrete_Optimization_of_2015_CVPR_paper.html
AUTHORS: Nikolay Savinov, Lubor Ladicky, Christian Hane, Marc Pollefeys
HIGHLIGHT: We propose to formulate an optimization problem that directly optimizes the reprojection error of the 3D model with respect to the image estimates, which corresponds to the optimization over rays, where the cost function depends on the semantic class and depth of the first occupied voxel along the ray.

597, **TITLE:** SOLD: Sub-Optimal Low-rank Decomposition for Efficient Video Segmentation
http://openaccess.thecvf.com/content_cvpr_2015/html/Li_SOLD_Sub-Optimal_Low-rank_2015_CVPR_paper.html
AUTHORS: Chenglong Li, Liang Lin, Wangmeng Zuo, Shuicheng Yan, Jin Tang
HIGHLIGHT: We propose a general algorithm, called Sub-Optimal Low-rank Decomposition (SOLD), which pursues the low-rank representation for video segmentation.

598, **TITLE:** On the Appearance of Translucent Edges
http://openaccess.thecvf.com/content_cvpr_2015/html/Gkioulekas_On_the_Appearance_2015_CVPR_paper.html
AUTHORS: Ioannis Gkioulekas, Bruce Walter, Edward H. Adelson, Kavita Bala, Todd Zickler
HIGHLIGHT: This paper considers one class of translucency edges---those caused by a discontinuity in surface orientation---and describes the physical causes of their appearance.

599, **TITLE:** On Pairwise Costs for Network Flow Multi-Object Tracking
http://openaccess.thecvf.com/content_cvpr_2015/html/Chari_On_Pairwise_Costs_2015_CVPR_paper.html
AUTHORS: Visesh Chari, Simon Lacoste-Julien, Ivan Laptev, Josef Sivic
HIGHLIGHT: To cope with such situations, we propose to add pairwise costs to the min-cost network flow framework.

600, **TITLE:** Fine-Grained Recognition Without Part Annotations
http://openaccess.thecvf.com/content_cvpr_2015/html/Krause_Fine-Grained_Recognition_Without_2015_CVPR_paper.html
AUTHORS: Jonathan Krause, Hailin Jin, Jianchao Yang, Li Fei-Fei
HIGHLIGHT: In this work we propose a method for fine-grained recognition that uses no part annotations.

601, **TITLE:** Robust Reconstruction of Indoor Scenes
http://openaccess.thecvf.com/content_cvpr_2015/html/Choi_Robust_Reconstruction_of_2015_CVPR_paper.html
AUTHORS: Sungjoon Choi, Qian-Yi Zhou, Vladlen Koltun
HIGHLIGHT: We present an approach to indoor scene reconstruction from RGB-D video.