

- 270, TITLE: The Expected-Length Model of Options  
<https://www.ijcai.org/proceedings/2019/270>  
AUTHORS: David Abel, John Winder, Marie desJardins, Michael Littman  
HIGHLIGHT: This paper introduces and motivates the Expected-Length Model (ELM) for options, an alternate model for transition dynamics.
- 271, TITLE: Human-in-the-loop Active Covariance Learning for Improving Prediction in Small Data Sets  
<https://www.ijcai.org/proceedings/2019/271>  
AUTHORS: Homayun Afrabandpey, Tomi Peltola, Samuel Kaski  
HIGHLIGHT: In contrast, we propose eliciting expert knowledge about pairwise feature similarities, to borrow statistical strength in the predictions, and using sequential decision making techniques to minimize the effort of the expert.
- 272, TITLE: Inter-node Hellinger Distance based Decision Tree  
<https://www.ijcai.org/proceedings/2019/272>  
AUTHORS: Pritom Saha Akash, Md. Eusha Kadir, Amin Ahsan Ali, Mohammad Shoyaib  
HIGHLIGHT: This paper introduces a new splitting criterion called Inter-node Hellinger Distance (iHD) and a weighted version of it (iHDw) for constructing decision trees.
- 273, TITLE: Unobserved Is Not Equal to Non-existent: Using Gaussian Processes to Infer Immediate Rewards Across Contexts  
<https://www.ijcai.org/proceedings/2019/273>  
AUTHORS: Hamoon Azizsoltani, Yeo Jin Kim, Markel Sanz Ausin, Tiffany Barnes, Min Chi  
HIGHLIGHT: We address the credit assignment problem by proposing a Gaussian Process (GP)-based immediate reward approximation algorithm and evaluate its effectiveness in 4 contexts where rewards can be delayed for long trajectories.
- 274, TITLE: STG2Seq: Spatial-Temporal Graph to Sequence Model for Multi-step Passenger Demand Forecasting  
<https://www.ijcai.org/proceedings/2019/274>  
AUTHORS: Lei Bai, Lina Yao, Salil S. Kanhere, Xianzhi Wang, Quan Z. Sheng  
HIGHLIGHT: In this work, we propose to model multi-step citywide passenger demand prediction based on a graph and use a hierarchical graph convolutional structure to capture both spatial and temporal correlations simultaneously.
- 275, TITLE: Unsupervised Inductive Graph-Level Representation Learning via Graph-Graph Proximity  
<https://www.ijcai.org/proceedings/2019/275>  
AUTHORS: Yunsheng Bai, Hao Ding, Yang Qiao, Agustin Marinovic, Ken Gu, Ting Chen, Yizhou Sun, Wei Wang  
HIGHLIGHT: We introduce a novel approach to graph-level representation learning, which is to embed an entire graph into a vector space where the embeddings of two graphs preserve their graph-graph proximity.
- 276, TITLE: Conditional GAN with Discriminative Filter Generation for Text-to-Video Synthesis  
<https://www.ijcai.org/proceedings/2019/276>  
AUTHORS: Yogesh Balaji, Martin Renqiang Min, Bing Bai, Rama Chellappa, Hans Peter Graf  
HIGHLIGHT: In this work, we address this problem by introducing Text-Filter conditioning Generative Adversarial Network (TFGAN), a conditional GAN model with a novel multi-scale text-conditioning scheme that improves text-video associations. In addition, we construct a synthetic dataset of text-conditioned moving shapes to systematically evaluate our conditioning scheme.
- 277, TITLE: An Actor-Critic-Attention Mechanism for Deep Reinforcement Learning in Multi-view Environments  
<https://www.ijcai.org/proceedings/2019/277>  
AUTHORS: Elaheh Barati, Xuwen Chen  
HIGHLIGHT: In this paper, we propose a deep reinforcement learning method and an attention mechanism in a multi-view environment.
- 278, TITLE: Motion Invariance in Visual Environments  
<https://www.ijcai.org/proceedings/2019/278>  
AUTHORS: Alessandro Betti, Marco Gori, Stefano Melacci  
HIGHLIGHT: In this paper, we claim that the processing of a stream of frames naturally leads to formulate the motion invariance principle, which enables the construction of a new theory of visual learning based on convolutional features.
- 279, TITLE: Optimal Exploitation of Clustering and History Information in Multi-armed Bandit  
<https://www.ijcai.org/proceedings/2019/279>  
AUTHORS: Djallel Bouneffouf, Srinivasan Parthasarathy, Horst Samulowitz, Martin Wistuba  
HIGHLIGHT: We consider the stochastic multi-armed bandit problem and the contextual bandit problem with historical observations and pre-clustered arms.

- 280, TITLE: Incremental Elicitation of Rank-Dependent Aggregation Functions based on Bayesian Linear Regression  
<https://www.ijcai.org/proceedings/2019/280>  
AUTHORS: Nadjat Bourdache, Patrice Perny, Olivier Spanjaard  
HIGHLIGHT: We introduce a new model-based incremental choice procedure for multicriteria decision support, that interleaves the analysis of the set of alternatives and the elicitation of weighting coefficients that specify the role of criteria in rank-dependent models such as ordered weighted averages (OWA) and Choquet integrals.
- 281, TITLE: A Gradient-Based Split Criterion for Highly Accurate and Transparent Model Trees  
<https://www.ijcai.org/proceedings/2019/281>  
AUTHORS: Klaus Broelemann, Gjergji Kasneci  
HIGHLIGHT: We propose shallow model trees as a way to combine simple and highly transparent predictive models for higher predictive power without losing the transparency of the original models.
- 282, TITLE: Matrix Completion in the Unit Hypercube via Structured Matrix Factorization  
<https://www.ijcai.org/proceedings/2019/282>  
AUTHORS: Emanuele Bugliarello, Swayambhoo Jain, Vineeth Rakesh  
HIGHLIGHT: In this paper, we address a key challenge faced by our company: predicting the efficiency of artists in rendering visual effects (VFX) in film shots.
- 283, TITLE: Active Learning within Constrained Environments through Imitation of an Expert Questioner  
<https://www.ijcai.org/proceedings/2019/283>  
AUTHORS: Kalesha Bullard, Yannick Schroecker, Sonia Chernova  
HIGHLIGHT: This work uses imitation learning to enable an agent in a constrained environment to concurrently reason about both its internal learning goals and environmental constraints externally imposed, all within its objective function.
- 284, TITLE: Multi-View Active Learning for Video Recommendation  
<https://www.ijcai.org/proceedings/2019/284>  
AUTHORS: Jia-Jia Cai, Jun Tang, Qing-Guo Chen, Yao Hu, Xiaobo Wang, Sheng-Jun Huang  
HIGHLIGHT: To train an effective recommender system with lower annotation cost, we propose an active learning approach to fully exploit the visual view of videos, while querying as few annotations as possible from the text view.
- 285, TITLE: Learning Disentangled Semantic Representation for Domain Adaptation  
<https://www.ijcai.org/proceedings/2019/285>  
AUTHORS: Ruichu Cai, Zijian Li, Pengfei Wei, Jie Qiao, Kun Zhang, Zhifeng Hao  
HIGHLIGHT: Different from previous efforts on the entangled feature space, we aim to extract the domain invariant semantic information in the latent disentangled semantic representation (DSR) of the data.
- 286, TITLE: Tree Sampling Divergence: An Information-Theoretic Metric for Hierarchical Graph Clustering  
<https://www.ijcai.org/proceedings/2019/286>  
AUTHORS: Bertrand Charpentier, Thomas Bonald  
HIGHLIGHT: We introduce the tree sampling divergence (TSD), an information-theoretic metric for assessing the quality of the hierarchical clustering of a graph.
- 287, TITLE: FakeTables: Using GANs to Generate Functional Dependency Preserving Tables with Bounded Real Data  
<https://www.ijcai.org/proceedings/2019/287>  
AUTHORS: Haipeng Chen, Sushil Jajodia, Jing Liu, Noseong Park, Vadim Sokolov, V. S. Subrahmanian  
HIGHLIGHT: In this paper, our goal is to find a way to augment the sub-table by generating a synthetic table from the released sub-table, under the constraints that the generated synthetic table (i) has similar statistics as the entire table, and (ii) preserves the functional dependencies of the released sub-table.
- 288, TITLE: Theoretical Investigation of Generalization Bound for Residual Networks  
<https://www.ijcai.org/proceedings/2019/288>  
AUTHORS: Hao Chen, Zhanfeng Mo, Zhouwang Yang, Xiao Wang  
HIGHLIGHT: This paper presents a framework for norm-based capacity control with respect to an  $l_{p,q}$ -norm in weight-normalized Residual Neural Networks (ResNets).
- 289, TITLE: Learning Semantic Annotations for Tabular Data  
<https://www.ijcai.org/proceedings/2019/289>  
AUTHORS: Jiaoyan Chen, Ernesto Jimenez-Ruiz, Ian Horrocks, Charles Sutton

**HIGHLIGHT:** Unlike traditional lexical matching-based methods, we propose a deep prediction model that can fully exploit a table's contextual semantics, including table locality features learned by a Hybrid NeuralNetwork (HNN), and inter-column semantics features learned by a knowledge base (KB) lookup and query answering algorithm.

290, **TITLE:** Matching User with Item Set: Collaborative Bundle Recommendation with Deep Attention Network

<https://www.ijcai.org/proceedings/2019/290>

**AUTHORS:** Liang Chen, Yang Liu, Xiangnan He, Lianli Gao, Zibin Zheng

**HIGHLIGHT:** We contribute a neural network solution named DAM, short for Deep Attentive Multi-Task model, which is featured with two special designs: 1) We design a factorized attention network to aggregate the item embeddings in a bundle to obtain the bundle's representation; 2) We jointly model user-bundle interactions and user-item interactions in a multi-task manner to alleviate the scarcity of user-bundle interactions.

291, **TITLE:** Cooperative Pruning in Cross-Domain Deep Neural Network Compression

<https://www.ijcai.org/proceedings/2019/291>

**AUTHORS:** Shangyu Chen, Wenya Wang, Sinno Jialin Pan

**HIGHLIGHT:** In this paper, we propose a method to perform cross-domain pruning by cooperatively training in both domains: taking advantage of data and a pre-trained model from the source domain to assist pruning in the target domain.

292, **TITLE:** Extensible Cross-Modal Hashing

<https://www.ijcai.org/proceedings/2019/292>

**AUTHORS:** Tian-yi Chen, Lan Zhang, Shi-cong Zhang, Zi-long Li, Bai-chuan Huang

**HIGHLIGHT:** In this work, we propose a novel extensible cross-modal hashing (ECMH) to enable highly efficient and low-cost model extension.

293, **TITLE:** Semi-supervised User Profiling with Heterogeneous Graph Attention Networks

<https://www.ijcai.org/proceedings/2019/293>

**AUTHORS:** Weijian Chen, Yulong Gu, Zhaochun Ren, Xiangnan He, Hongtao Xie, Tong Guo, Dawei Yin, Yongdong Zhang

**HIGHLIGHT:** In this paper, we approach user profiling in a semi-supervised manner, developing a generic solution based on heterogeneous graph learning.

294, **TITLE:** ActiveHNE: Active Heterogeneous Network Embedding

<https://www.ijcai.org/proceedings/2019/294>

**AUTHORS:** Xia Chen, Guoxian Yu, Jun Wang, Carlotta Domeniconi, Zhao Li, Xiangliang Zhang

**HIGHLIGHT:** In DHNE, we introduce a novel semi-supervised heterogeneous network embedding method based on graph convolutional neural network.

295, **TITLE:** A Restart-based Rank-1 Evolution Strategy for Reinforcement Learning

<https://www.ijcai.org/proceedings/2019/295>

**AUTHORS:** Zefeng Chen, Yuren Zhou, Xiao-yu He, Siyu Jiang

**HIGHLIGHT:** To this end, this paper proposes a restart-based rank-1 evolution strategy for reinforcement learning.

296, **TITLE:** Co-Attentive Multi-Task Learning for Explainable Recommendation

<https://www.ijcai.org/proceedings/2019/296>

**AUTHORS:** Zhongxia Chen, Xiting Wang, Xing Xie, Tong Wu, Guoqing Bu, Yining Wang, Enhong Chen

**HIGHLIGHT:** In this paper, we propose a co-attentive multi-task learning model for explainable recommendation.

297, **TITLE:** Variational Graph Embedding and Clustering with Laplacian Eigenmaps

<https://www.ijcai.org/proceedings/2019/297>

**AUTHORS:** Zitai Chen, Chuan Chen, Zong Zhang, Zibin Zheng, Qingsong Zou

**HIGHLIGHT:** To address this issue, we propose a deep probabilistic model, called Variational Graph Embedding and Clustering with Laplacian Eigenmaps (VGECL), which learns node embeddings and assigns node clusters simultaneously.

298, **TITLE:** Deep Active Learning for Anchor User Prediction

<https://www.ijcai.org/proceedings/2019/298>

**AUTHORS:** Anfeng Cheng, Chuan Zhou, Hong Yang, Jia Wu, Lei Li, Jianlong Tan, Li Guo

**HIGHLIGHT:** To this end, we present a deep active learning model for anchor user prediction (DALAUP for short).

299, **TITLE:** Success Prediction on Crowdfunding with Multimodal Deep Learning

<https://www.ijcai.org/proceedings/2019/299>

- AUTHORS: Chaoran Cheng, Fei Tan, Xiurui Hou, Zhi Wei  
HIGHLIGHT: In this work, we designed and evaluated advanced neural network schemes that combine information from different modalities to study the influence of sophisticated interactions among textual, visual, and metadata on project success prediction.
- 300, TITLE: Approximate Optimal Transport for Continuous Densities with Copulas  
<https://www.ijcai.org/proceedings/2019/300>  
AUTHORS: Jinjin Chi, Jihong Ouyang, Ximing Li, Yang Wang, Meng Wang  
HIGHLIGHT: To this end, we develop a novel continuous OT method, namely Copula OT (Cop-OT).
- 301, TITLE: Ornstein Auto-Encoders  
<https://www.ijcai.org/proceedings/2019/301>  
AUTHORS: Youngwon Choi, Joong-Ho Won  
HIGHLIGHT: We propose the Ornstein auto-encoder (OAE), a representation learning model for correlated data.
- 302, TITLE: A Strongly Asymptotically Optimal Agent in General Environments  
<https://www.ijcai.org/proceedings/2019/302>  
AUTHORS: Michael K. Cohen, Elliot Catt, Marcus Hutter  
HIGHLIGHT: We present an algorithm for a policy whose value approaches the optimal value with probability 1 in all computable probabilistic environments, provided the agent has a bounded horizon.
- 303, TITLE: Extrapolating Paths with Graph Neural Networks  
<https://www.ijcai.org/proceedings/2019/303>  
AUTHORS: Jean-Baptiste Cordonnier, Andreas Loukas  
HIGHLIGHT: Our main contribution is a graph neural network called Gretel.
- 304, TITLE: Recommending Links to Maximize the Influence in Social Networks  
<https://www.ijcai.org/proceedings/2019/304>  
AUTHORS: Federico Corò, Gianlorenzo D'Angelo, Yllka Velaj  
HIGHLIGHT: In this paper we measure the popularity of a user by means of its social influence, which is its capability to influence other users' opinions, and we propose a link recommendation algorithm that evaluates the links to suggest according to their increment in social influence instead of their likelihood of being created.
- 305, TITLE: Three-Player Wasserstein GAN via Amortised Duality  
<https://www.ijcai.org/proceedings/2019/305>  
AUTHORS: Nhan Dam, Quan Hoang, Trung Le, Tu Dinh Nguyen, Hung Bui, Dinh Phung  
HIGHLIGHT: We propose a new formulation for learning generative adversarial networks (GANs) using optimal transport cost (the general form of Wasserstein distance) as the objective criterion to measure the dissimilarity between target distribution and learned distribution.
- 306, TITLE: Learn Smart with Less: Building Better Online Decision Trees with Fewer Training Examples  
<https://www.ijcai.org/proceedings/2019/306>  
AUTHORS: Ariyam Das, Jin Wang, Sahil M. Gandhi, Jae Lee, Wei Wang, Carlo Zaniolo  
HIGHLIGHT: In this paper, we efficiently employ statistical resampling techniques to build an online tree faster using fewer examples.
- 307, TITLE: IRC-GAN: Introspective Recurrent Convolutional GAN for Text-to-video Generation  
<https://www.ijcai.org/proceedings/2019/307>  
AUTHORS: Kangle Deng, Tianyi Fei, Xin Huang, Yuxin Peng  
HIGHLIGHT: To address these issues, we present a novel Introspective Recurrent Convolutional GAN (IRC-GAN) approach.
- 308, TITLE: Marginal Posterior Sampling for Slate Bandits  
<https://www.ijcai.org/proceedings/2019/308>  
AUTHORS: Maria Dimakopoulou, Nikos Vlassis, Tony Jebara  
HIGHLIGHT: We introduce a new Thompson sampling-based algorithm, called marginal posterior sampling, for online slate bandits, that is characterized by three key ideas.
- 309, TITLE: Reinforced Negative Sampling for Recommendation with Exposure Data  
<https://www.ijcai.org/proceedings/2019/309>  
AUTHORS: Jingtao Ding, Yuhan Quan, Xiangnan He, Yong Li, Depeng Jin

HIGHLIGHT: In this work, we improve the negative sampler by integrating the exposure data.

310, TITLE: Group Reconstruction and Max-Pooling Residual Capsule Network  
<https://www.ijcai.org/proceedings/2019/310>  
AUTHORS: Xinpeng Ding, Nannan Wang, Xinbo Gao, Jie Li, Xiaoyu Wang  
HIGHLIGHT: In order to solve these shortcomings, this paper proposes a group reconstruction and max-pooling residual capsule network (GRMR-CapsNet).

311, TITLE: Crafting Efficient Neural Graph of Large Entropy  
<https://www.ijcai.org/proceedings/2019/311>  
AUTHORS: Minjing Dong, Hanting Chen, Yunhe Wang, Chang Xu  
HIGHLIGHT: We propose to use graph entropy as the measurement, which shows useful properties to craft high-quality neural graphs and enables us to propose efficient algorithm to construct them as the initial network architecture.

312, TITLE: Joint Link Prediction and Network Alignment via Cross-graph Embedding  
<https://www.ijcai.org/proceedings/2019/312>  
AUTHORS: Xingbo Du, Junchi Yan, Hongyuan Zha  
HIGHLIGHT: In this paper we argue that these two tasks are relevant and present a joint link prediction and network alignment framework, whereby a novel cross-graph node embedding technique is devised to allow for information propagation.

313, TITLE: Fast Algorithm for K-Truss Discovery on Public-Private Graphs  
<https://www.ijcai.org/proceedings/2019/313>  
AUTHORS: Soroush Ebadian, Xin Huang  
HIGHLIGHT: This paper aims at finding k-truss efficiently in public-private graphs.

314, TITLE: Mindful Active Learning  
<https://www.ijcai.org/proceedings/2019/314>  
AUTHORS: Zhila Esna Ashari, Hassan Ghasemzadeh  
HIGHLIGHT: We propose a novel active learning framework for activity recognition using wearable sensors.

315, TITLE: iDev: Enhancing Social Coding Security by Cross-platform User Identification Between GitHub and Stack Overflow  
<https://www.ijcai.org/proceedings/2019/315>  
AUTHORS: Yujie Fan, Yiming Zhang, Shifu Hou, Lingwei Chen, Yanfang Ye, Chuan Shi, Liang Zhao, Shouhuai Xu  
HIGHLIGHT: To enhance the social coding security, in this paper, we propose to automate cross-platform user identification between GitHub and Stack Overflow to combat the attackers who attempt to poison the modern software programming ecosystem.

316, TITLE: Hybrid Actor-Critic Reinforcement Learning in Parameterized Action Space  
<https://www.ijcai.org/proceedings/2019/316>  
AUTHORS: Zhou Fan, Rui Su, Weinan Zhang, Yong Yu  
HIGHLIGHT: In this paper we propose a hybrid architecture of actor-critic algorithms for reinforcement learning in parameterized action space, which consists of multiple parallel sub-actor networks to decompose the structured action space into simpler action spaces along with a critic network to guide the training of all sub-actor networks.

317, TITLE: GSTNet: Global Spatial-Temporal Network for Traffic Flow Prediction  
<https://www.ijcai.org/proceedings/2019/317>  
AUTHORS: Shen Fang, Qi Zhang, Gaofeng Meng, Shiming Xiang, Chunhong Pan  
HIGHLIGHT: To capture the global dynamic spatial-temporal correlations, we propose a Global Spatial-Temporal Network (GSTNet), which consists of several layers of spatial-temporal blocks.

318, TITLE: Partial Label Learning by Semantic Difference Maximization  
<https://www.ijcai.org/proceedings/2019/318>  
AUTHORS: Lei Feng, Bo An  
HIGHLIGHT: By exploiting such dissimilarity relationships from label space, we propose a novel approach that aims to maximize the latent semantic differences of the two instances whose ground-truth labels are definitely different, while training the desired model simultaneously, thereby continually enlarging the gap of label confidences between two instances of different classes.

319, TITLE: Deep Session Interest Network for Click-Through Rate Prediction  
<https://www.ijcai.org/proceedings/2019/319>  
AUTHORS: Yupei Feng, Fuyu Lv, Weichen Shen, Menghan Wang, Fei Sun, Yu Zhu, Keping Yang

**HIGHLIGHT:** Based on this observation, we propose a novel CTR model named Deep Session Interest Network (DSIN) that leverages users' multiple historical sessions in their behavior sequences.

320, **TITLE:** Curriculum Learning for Cumulative Return Maximization

<https://www.ijcai.org/proceedings/2019/320>

**AUTHORS:** Francesco Foglino, Christiano Coletto Christakou, Ricardo Luna Gutierrez, Matteo Leonetti

**HIGHLIGHT:** We propose a task sequencing algorithm maximizing the cumulative return, that is, the return obtained by the agent across all the learning episodes.

321, **TITLE:** Advocacy Learning: Learning through Competition and Class-Conditional Representations

<https://www.ijcai.org/proceedings/2019/321>

**AUTHORS:** Ian Fox, Jenna Wiens

**HIGHLIGHT:** We introduce advocacy learning, a novel supervised training scheme for attention-based classification problems.

322, **TITLE:** Neurons Merging Layer: Towards Progressive Redundancy Reduction for Deep Supervised Hashing

<https://www.ijcai.org/proceedings/2019/322>

**AUTHORS:** Chaoyou Fu, Liangchen Song, Xiang Wu, Guoli Wang, Ran He

**HIGHLIGHT:** This paper proposes a simple yet effective Neurons Merging Layer (NMLayer) for deep supervised hashing.

323, **TITLE:** Deep Multi-Agent Reinforcement Learning with Discrete-Continuous Hybrid Action Spaces

<https://www.ijcai.org/proceedings/2019/323>

**AUTHORS:** Haotian Fu, Hongyao Tang, Jianye Hao, Zihan Lei, Yingfeng Chen, Changjie Fan

**HIGHLIGHT:** Our work fills this gap by proposing two novel algorithms: Deep Multi-Agent Parameterized Q-Networks (Deep MAPQN) and Deep Multi-Agent Hierarchical Hybrid Q-Networks (Deep MAHHQN).

324, **TITLE:** Automatic Successive Reinforcement Learning with Multiple Auxiliary Rewards

<https://www.ijcai.org/proceedings/2019/324>

**AUTHORS:** Zhao-Yang Fu, De-Chuan Zhan, Xin-Chun Li, Yi-Xing Lu

**HIGHLIGHT:** In this paper, we focus on the investigation of reinforcement learning with more than one auxiliary reward.

325, **TITLE:** RecoNet: An Interpretable Neural Architecture for Recommender Systems

<https://www.ijcai.org/proceedings/2019/325>

**AUTHORS:** Francesco Fusco, Michalis Vlachos, Vasileios Vasileiadis, Kathrin Wardatzky, Johannes Schneider

**HIGHLIGHT:** We present a simple neural architecture for recommender systems that lifts several of these shortcomings.

326, **TITLE:** Reward Learning for Efficient Reinforcement Learning in Extractive Document Summarisation

<https://www.ijcai.org/proceedings/2019/326>

**AUTHORS:** Yang Gao, Christian M. Meyer, Mohsen Mesgar, Iryna Gurevych

**HIGHLIGHT:** We propose RELIS, a novel RL paradigm that learns a reward function with Learning-to-Rank (L2R) algorithms at training time and uses this reward function to train an input-specific RL policy at test time.

327, **TITLE:** Fully Distributed Bayesian Optimization with Stochastic Policies

<https://www.ijcai.org/proceedings/2019/327>

**AUTHORS:** Javier Garcia-Barcos, Ruben Martinez-Cantin

**HIGHLIGHT:** In this paper, we present a new method for fully distributed Bayesian optimization, which can be combined with any acquisition function.

328, **TITLE:** Scalable Semi-Supervised SVM via Triply Stochastic Gradients

<https://www.ijcai.org/proceedings/2019/328>

**AUTHORS:** Xiang Geng, Bin Gu, Xiang Li, Wanli Shi, Guansheng Zheng, Heng Huang

**HIGHLIGHT:** To address this problem, in this paper, we propose a triply stochastic gradient algorithm for S3VM, called TSGS3VM.

329, **TITLE:** Perception-Aware Point-Based Value Iteration for Partially Observable Markov Decision Processes

<https://www.ijcai.org/proceedings/2019/329>

**AUTHORS:** Mahsa Ghasemi, Ufuk Topcu

**HIGHLIGHT:** We develop a novel point-based value iteration algorithm that incorporates this greedy strategy to pick perception actions for each sampled belief point in each iteration.

- 330, TITLE: Efficient Regularization Parameter Selection for Latent Variable Graphical Models via Bi-Level Optimization  
<https://www.ijcai.org/proceedings/2019/330>  
AUTHORS: Joachim Giesen, Frank Nussbaum, Christopher Schneider  
HIGHLIGHT: Here, we develop an adaptive variant of Benson's algorithm for the semidefinite case and show that it keeps the known approximation and run time guarantees.
- 331, TITLE: Using Natural Language for Reward Shaping in Reinforcement Learning  
<https://www.ijcai.org/proceedings/2019/331>  
AUTHORS: Prasoon Goyal, Scott Niekum, Raymond J. Mooney  
HIGHLIGHT: In this work, we use natural language instructions to perform reward shaping.
- 332, TITLE: Sketched Iterative Algorithms for Structured Generalized Linear Models  
<https://www.ijcai.org/proceedings/2019/332>  
AUTHORS: Qilong Gu, Arindam Banerjee  
HIGHLIGHT: In this paper, we study sketched iterative algorithms, in particular sketched-PGD (projected gradient descent) and sketched-SVRG (stochastic variance reduced gradient) for structured generalized linear model, and illustrate that these methods continue to have geometric convergence to the statistical error under suitable assumptions.
- 333, TITLE: SPINE: Structural Identity Preserved Inductive Network Embedding  
<https://www.ijcai.org/proceedings/2019/333>  
AUTHORS: Junliang Guo, Linli Xu, Jingchang Liu  
HIGHLIGHT: In this paper we present SPINE, a method that can jointly capture the local proximity and proximities at any distance, while being inductive to efficiently deal with unseen nodes or networks.
- 334, TITLE: Discriminative Sample Generation for Deep Imbalanced Learning  
<https://www.ijcai.org/proceedings/2019/334>  
AUTHORS: Ting Guo, Xingquan Zhu, Yang Wang, Fang Chen  
HIGHLIGHT: In this paper, we propose a discriminative variational autoencoder (DVAE) to assist deep learning from data with imbalanced class distributions.
- 335, TITLE: Affine Equivariant Autoencoder  
<https://www.ijcai.org/proceedings/2019/335>  
AUTHORS: Xifeng Guo, En Zhu, Xinwang Liu, Jianping Yin  
HIGHLIGHT: To fill this gap, in this paper, we propose an affine equivariant autoencoder to learn features that are equivariant to the affine transformation in an unsupervised manner.
- 336, TITLE: AdaLinUCB: Opportunistic Learning for Contextual Bandits  
<https://www.ijcai.org/proceedings/2019/336>  
AUTHORS: Xueying Guo, Xiaoxiao Wang, Xin Liu  
HIGHLIGHT: In this paper, we propose and study opportunistic contextual bandits - a special case of contextual bandits where the exploration cost varies under different environmental conditions, such as network load or return variation in recommendations.
- 337, TITLE: Zero-shot Learning with Many Classes by High-rank Deep Embedding Networks  
<https://www.ijcai.org/proceedings/2019/337>  
AUTHORS: Yuchen Guo, Guiguang Ding, Jungong Han, Hang Shao, Xin Lou, Qionghai Dai  
HIGHLIGHT: To address this issue, we propose a novel approach, termed as High-rank Deep Embedding Networks (GREEN), for ZSL with many classes.
- 338, TITLE: Landmark Selection for Zero-shot Learning  
<https://www.ijcai.org/proceedings/2019/338>  
AUTHORS: Yuchen Guo, Guiguang Ding, Jungong Han, Chenggang Yan, Jiyong Zhang, Qionghai Dai  
HIGHLIGHT: Motivated by this idea, we propose a novel approach, termed as Landmark Selection(LAST) for ZSL.
- 339, TITLE: MineRL: A Large-Scale Dataset of Minecraft Demonstrations  
<https://www.ijcai.org/proceedings/2019/339>  
AUTHORS: William H. Guss, Brandon Houghton, Nicholay Topin, Phillip Wang, Cayden Codell, Manuela Veloso, Ruslan Salakhutdinov  
HIGHLIGHT: Therefore, we introduce a comprehensive, large-scale, simulator-paired dataset of human demonstrations: MineRL.



340, TITLE: Confirmatory Bayesian Online Change Point Detection in the Covariance Structure of Gaussian Processes  
<https://www.ijcai.org/proceedings/2019/340>  
AUTHORS: Jiyeon Han, Kywoon Lee, Anh Tong, Jaesik Choi  
HIGHLIGHT: In this paper, we propose statistical hypothesis tests for detecting covariance structure changes in locally smooth time series modeled by Gaussian Processes (GPs).

341, TITLE: Attribute Aware Pooling for Pedestrian Attribute Recognition  
<https://www.ijcai.org/proceedings/2019/341>  
AUTHORS: Kai Han, Yunhe Wang, Han Shu, Chuanjian Liu, Chunjing Xu, Chang Xu  
HIGHLIGHT: We tackle these challenges that hampers the development of CNNs for multi-attribute classification by fully exploiting the correlation between different attributes.

342, TITLE: Network Embedding under Partial Monitoring for Evolving Networks  
<https://www.ijcai.org/proceedings/2019/342>  
AUTHORS: Yu Han, Jie Tang, Qian Chen  
HIGHLIGHT: So in this paper, we study a novel and challenging problem, i.e., network embedding under partial monitoring for evolving networks.

343, TITLE: Deep Active Learning with Adaptive Acquisition  
<https://www.ijcai.org/proceedings/2019/343>  
AUTHORS: Manuel Hausmann, Fred Hamprecht, Melih Kandemir  
HIGHLIGHT: We present a method to break this vicious circle by defining the acquisition function as a learning predictor and training it by reinforcement feedback collected from each labeling round.

344, TITLE: One Network for Multi-Domains: Domain Adaptive Hashing with Intersectant Generative Adversarial Networks  
<https://www.ijcai.org/proceedings/2019/344>  
AUTHORS: Tao He, Yuan-Fang Li, Lianli Gao, Dongxiang Zhang, Jingkuan Song  
HIGHLIGHT: In this paper, we explore an end-to-end domain adaptive learning framework that simultaneously and precisely generates discriminative hash codes and classifies target domain images.

345, TITLE: Deliberation Learning for Image-to-Image Translation  
<https://www.ijcai.org/proceedings/2019/345>  
AUTHORS: Tianyu He, Yingce Xia, Jianxin Lin, Xu Tan, Di He, Tao Qin, Zhibo Chen  
HIGHLIGHT: In this paper, we go beyond this learning framework by considering an additional polishing step on the output image.

346, TITLE: Online Learning from Capricious Data Streams: A Generative Approach  
<https://www.ijcai.org/proceedings/2019/346>  
AUTHORS: Yi He, Baijun Wu, Di Wu, Ege Beyazit, Sheng Chen, Xindong Wu  
HIGHLIGHT: We propose a generative graphical model to model the construction process, and show that learning from the universal feature space can effectively improve performance with theoretical analysis.

347, TITLE: Learning Topic Models by Neighborhood Aggregation  
<https://www.ijcai.org/proceedings/2019/347>  
AUTHORS: Ryohei Hisano  
HIGHLIGHT: The present paper shows that topic modeling with pre-trained word embedding vectors can be viewed as implementing a neighborhood aggregation algorithm where messages are passed through a network defined over words.

348, TITLE: Group-based Learning of Disentangled Representations with Generalizability for Novel Contents  
<https://www.ijcai.org/proceedings/2019/348>  
AUTHORS: Haruo Hosoya  
HIGHLIGHT: In this study, we introduce a novel deep generative model, called group-based variational autoencoders.

349, TITLE: Robust Learning from Noisy Side-information by Semidefinite Programming  
<https://www.ijcai.org/proceedings/2019/349>  
AUTHORS: En-Liang Hu, Quanming Yao  
HIGHLIGHT: Motivated by such a trend and needs, we pursue robustness in semi-definite programming (SDP) in this paper.



- 350, TITLE: Hybrid Item-Item Recommendation via Semi-Parametric Embedding  
<https://www.ijcai.org/proceedings/2019/350>  
AUTHORS: Peng Hu, Rong Du, Yao Hu, Nan Li  
HIGHLIGHT: In this paper, we propose a semi-parametric embedding framework for this problem.
- 351, TITLE: Cascaded Algorithm-Selection and Hyper-Parameter Optimization with Extreme-Region Upper Confidence Bound Bandit  
<https://www.ijcai.org/proceedings/2019/351>  
AUTHORS: Yi-Qi Hu, Yang Yu, Jun-Da Liao  
HIGHLIGHT: In this paper, we propose a cascaded approach for algorithm selection and hyper-parameter optimization.
- 352, TITLE: Deep Metric Learning: The Generalization Analysis and an Adaptive Algorithm  
<https://www.ijcai.org/proceedings/2019/352>  
AUTHORS: Mengdi Huai, Hongfei Xue, Chenglin Miao, Liuyi Yao, Lu Su, Changyou Chen, Aidong Zhang  
HIGHLIGHT: In this paper, we try to fill up this research gap and derive the generalization error bound for DML.
- 353, TITLE: Privacy-aware Synthesizing for Crowdsourced Data  
<https://www.ijcai.org/proceedings/2019/353>  
AUTHORS: Mengdi Huai, Di Wang, Chenglin Miao, Jinhui Xu, Aidong Zhang  
HIGHLIGHT: To address this challenge, in this paper, we propose a novel privacy-aware synthesizing method (i.e., PrsCrowd) for crowdsourced data, based on which the data collector can release users' data with strong privacy protection for their private information, while at the same time, the data analyzer can achieve good utility from the released data.
- 354, TITLE: Zeroth-Order Stochastic Alternating Direction Method of Multipliers for Nonconvex Nonsmooth Optimization  
<https://www.ijcai.org/proceedings/2019/354>  
AUTHORS: Feihu Huang, Shangqian Gao, Songcan Chen, Heng Huang  
HIGHLIGHT: In the paper, thus, we propose a class of fast zeroth-order stochastic ADMM methods (i.e., ZO-SVRG-ADMM and ZO-SAGA-ADMM) for solving nonconvex problems with multiple nonsmooth penalties, based on the coordinate smoothing gradient estimator.
- 355, TITLE: Nostalgic Adam: Weighting More of the Past Gradients When Designing the Adaptive Learning Rate  
<https://www.ijcai.org/proceedings/2019/355>  
AUTHORS: Haiwen Huang, Chang Wang, Bin Dong  
HIGHLIGHT: We therefore propose an algorithm called the Nostalgic Adam (NosAdam) with theoretically guaranteed convergence at the best known convergence rate.
- 356, TITLE: Multi-view Spectral Clustering Network  
<https://www.ijcai.org/proceedings/2019/356>  
AUTHORS: Zhenyu Huang, Joey Tianyi Zhou, Xi Peng, Changqing Zhang, Hongyuan Zhu, Jiancheng Lv  
HIGHLIGHT: In this paper, we propose a novel multi-view clustering method named multi-view spectral clustering network (MvSCN) which could be the first deep version of multi-view spectral clustering to the best of our knowledge.
- 357, TITLE: Conditions on Features for Temporal Difference-Like Methods to Converge  
<https://www.ijcai.org/proceedings/2019/357>  
AUTHORS: Marcus Hutter, Samuel Yang-Zhao, Sultan Javed Majeed  
HIGHLIGHT: In this paper, we provide a complete characterization of non-uniqueness issues for a large class of reinforcement learning algorithms, simultaneously unifying many counter-examples to convergence in a theoretical framework.
- 358, TITLE: Entangled Kernels  
<https://www.ijcai.org/proceedings/2019/358>  
AUTHORS: Riikka Huusari, Hachem Kadri  
HIGHLIGHT: We propose an efficient two-step algorithm for this framework, where the entangled kernel is learned based on a novel extension of kernel alignment to operator-valued kernels.
- 359, TITLE: Efficient Protocol for Collaborative Dictionary Learning in Decentralized Networks  
<https://www.ijcai.org/proceedings/2019/359>  
AUTHORS: Tsuyoshi Idé, Rudy Raymond, Dzung T. Phan  
HIGHLIGHT: To this end, we propose a new framework for collaborative dictionary learning.

- 360, TITLE: SlateQ: A Tractable Decomposition for Reinforcement Learning with Recommendation Sets  
<https://www.ijcai.org/proceedings/2019/360>  
AUTHORS: Eugene Ie, Vihan Jain, Jing Wang, Sanmit Narvekar, Ritesh Agarwal, Rui Wu, Heng-Tze Cheng, Tushar Chandra, Craig Boutilier  
HIGHLIGHT: Under mild assumptions on user choice behavior, we show that the long-term value (LTV) of a slate can be decomposed into a tractable function of its component item-wise LTVs.
- 361, TITLE: Accelerating Extreme Classification via Adaptive Feature Agglomeration  
<https://www.ijcai.org/proceedings/2019/361>  
AUTHORS: Ankit Jalan, Purushottam Kar  
HIGHLIGHT: We propose DEFrag, an adaptive feature agglomeration technique to accelerate extreme classification algorithms.
- 362, TITLE: Assumed Density Filtering Q-learning  
<https://www.ijcai.org/proceedings/2019/362>  
AUTHORS: Heejin Jeong, Clark Zhang, George J. Pappas, Daniel D. Lee  
HIGHLIGHT: In this paper, we introduce a novel Bayesian approach to off-policy TD methods, called as ADFQ, which updates beliefs on state-action values, Q, through an online Bayesian inference method known as Assumed Density Filtering.
- 363, TITLE: Learning to Learn Gradient Aggregation by Gradient Descent  
<https://www.ijcai.org/proceedings/2019/363>  
AUTHORS: Jinlong Ji, Xuhui Chen, Qianlong Wang, Lixing Yu, Pan Li  
HIGHLIGHT: In this work, motivated by learning to learn, we propose a meta-learning approach to coordinate the learning process in the master-slave type of distributed systems.
- 364, TITLE: Patent Citation Dynamics Modeling via Multi-Attention Recurrent Networks  
<https://www.ijcai.org/proceedings/2019/364>  
AUTHORS: Taoran Ji, Zhiqian Chen, Nathan Self, Kaiqun Fu, Chang-Tien Lu, Naren Ramakrishnan  
HIGHLIGHT: In this paper, we propose a sequence-to-sequence model which employs an attention-of-attention mechanism to capture the dependencies of these multiple time sequences.
- 365, TITLE: Recurrent Generative Networks for Multi-Resolution Satellite Data: An Application in Cropland Monitoring  
<https://www.ijcai.org/proceedings/2019/365>  
AUTHORS: Xiaowei Jia, Mengdie Wang, Ankush Khandelwal, Anuj Karpatne, Vipin Kumar  
HIGHLIGHT: In this work, we propose a generative model to combine multi-scale remote sensing data to detect croplands at high resolution.
- 366, TITLE: Dynamic Hypergraph Neural Networks  
<https://www.ijcai.org/proceedings/2019/366>  
AUTHORS: Jianwen Jiang, Yuxuan Wei, Yifan Feng, Jingxuan Cao, Yue Gao  
HIGHLIGHT: To tackle this issue, we propose a dynamic hypergraph neural networks framework (DHGNN), which is composed of the stacked layers of two modules: dynamic hypergraph construction (DHG) and hypergraph convolution (HGC).
- 367, TITLE: Convolutional Gaussian Embeddings for Personalized Recommendation with Uncertainty  
<https://www.ijcai.org/proceedings/2019/367>  
AUTHORS: Junyang Jiang, Deqing Yang, Yanghua Xiao, Chenlu Shen  
HIGHLIGHT: Addressing this problem, we propose a unified deep recommendation framework employing Gaussian embeddings, which are proven adaptive to uncertain preferences exhibited by some users, resulting in better user representations and recommendation performance.
- 368, TITLE: Robust Low-Tubal-Rank Tensor Completion via Convex Optimization  
<https://www.ijcai.org/proceedings/2019/368>  
AUTHORS: Qiang Jiang, Michael Ng  
HIGHLIGHT: This paper considers the problem of recovering multidimensional array, in particular third-order tensor, from a random subset of its arbitrarily corrupted entries.
- 369, TITLE: CensNet: Convolution with Edge-Node Switching in Graph Neural Networks  
<https://www.ijcai.org/proceedings/2019/369>  
AUTHORS: Xiaodong Jiang, Pengsheng Ji, Sheng Li  
HIGHLIGHT: In this paper, we present CensNet, Convolution with Edge-Node Switching graph neural network, for semi-supervised classification and regression in graph-structured data with both node and edge features.

- 370, TITLE: Network-Specific Variational Auto-Encoder for Embedding in Attribute Networks  
<https://www.ijcai.org/proceedings/2019/370>  
AUTHORS: Di Jin, Bingyi Li, Pengfei Jiao, Dongxiao He, Weixiong Zhang  
HIGHLIGHT: Specifically, as a part of the dual decoder, we develop a novel method based on a Gaussian mixture model and the block model to reconstruct network structures.
- 371, TITLE: Hypergraph Induced Convolutional Manifold Networks  
<https://www.ijcai.org/proceedings/2019/371>  
AUTHORS: Taisong Jin, Liujuan Cao, Baochang Zhang, Xiaoshuai Sun, Cheng Deng, Rongrong Ji  
HIGHLIGHT: Specifically, two innovative designs are provided: 1) our manifold preserving method is implemented based on a mini-batch, which can be efficiently plugged into the existing DCNN training pipelines and be scalable for large datasets; 2) a robust hypergraph is built for each mini-batch, which not only offers a strong robustness against typical noise, but also captures the variances from multiple features.
- 372, TITLE: Submodular Batch Selection for Training Deep Neural Networks  
<https://www.ijcai.org/proceedings/2019/372>  
AUTHORS: K J Joseph, Vamshi Teja R, Krishnakant Singh, Vineeth N Balasubramanian  
HIGHLIGHT: We design an efficient, greedy algorithm which can give high-quality solutions to this NP-hard combinatorial optimization problem.
- 373, TITLE: Obstacle Tower: A Generalization Challenge in Vision, Control, and Planning  
<https://www.ijcai.org/proceedings/2019/373>  
AUTHORS: Arthur Juliani, Ahmed Khalifa, Vincent-Pierre Berges, Jonathan Harper, Ervin Teng, Hunter Henry, Adam Crespi, Julian Togelius, Danny Lange  
HIGHLIGHT: In this paper we outline the environment and provide a set of baseline results produced by current state-of-the-art Deep RL methods as well as human players.
- 374, TITLE: Interactive Teaching Algorithms for Inverse Reinforcement Learning  
<https://www.ijcai.org/proceedings/2019/374>  
AUTHORS: Parameswaran Kamalaruban, Rati Devidze, Volkan Cevher, Adish Singla  
HIGHLIGHT: We present an interactive teaching framework where a teacher adaptively chooses the next demonstration based on learner's current policy.
- 375, TITLE: Multiple Partitions Aligned Clustering  
<https://www.ijcai.org/proceedings/2019/375>  
AUTHORS: Zhao Kang, Zipeng Guo, Shudong Huang, Siying Wang, Wenyu Chen, Yuanzhang Su, Zenglin Xu  
HIGHLIGHT: Orthogonal to existing techniques, in this paper, we propose to leverage the multi-view information by fusing partitions.
- 376, TITLE: Twin-Systems to Explain Artificial Neural Networks using Case-Based Reasoning: Comparative Tests of Feature-Weighting Methods in ANN-CBR Twins for XAI  
<https://www.ijcai.org/proceedings/2019/376>  
AUTHORS: Eoin M. Kenny, Mark T. Keane  
HIGHLIGHT: In this paper, twin-systems are described to address the eXplainable artificial intelligence (XAI) problem, where a black box model is mapped to a white box "twin" that is more interpretable, with both systems using the same dataset.
- 377, TITLE: What to Expect of Classifiers? Reasoning about Logistic Regression with Missing Features  
<https://www.ijcai.org/proceedings/2019/377>  
AUTHORS: Pasha Khosravi, Yitao Liang, YooJung Choi, Guy Van den Broeck  
HIGHLIGHT: In this paper, we propose a novel framework that classifies examples with missing features by computing the expected prediction with respect to a feature distribution.
- 378, TITLE: Outlier Detection for Time Series with Recurrent Autoencoder Ensembles  
<https://www.ijcai.org/proceedings/2019/378>  
AUTHORS: Tung Kieu, Bin Yang, Chenjuan Guo, Christian S. Jensen  
HIGHLIGHT: We propose two solutions to outlier detection in time series based on recurrent autoencoder ensembles.
- 379, TITLE: DeepMellow: Removing the Need for a Target Network in Deep Q-Learning  
<https://www.ijcai.org/proceedings/2019/379>

**AUTHORS:** Seungchan Kim, Kavosh Asadi, Michael Littman, George Konidaris  
**HIGHLIGHT:** We argue that using a target network is incompatible with online reinforcement learning, and it is possible to achieve faster and more stable learning without a target network when we use Mellowmax, an alternative softmax operator.

**380, TITLE:** Sequential and Diverse Recommendation with Long Tail  
<https://www.ijcai.org/proceedings/2019/380>  
**AUTHORS:** Yejin Kim, Kwangseob Kim, Chanyoung Park, Hwanjo Yu  
**HIGHLIGHT:** Thus, we propose a sequential and diverse recommendation model that predicts a ranked list containing general items and also diverse items without compromising significant accuracy. To learn temporal preference on diverse items as well as on general items, we cluster and relocate consumed long tail items to make a pseudo ground truth for diverse items and learn the preference on long tail using recurrent neural network, which enables us to directly learn a ranking function.

**381, TITLE:** Single-Channel Signal Separation and Deconvolution with Generative Adversarial Networks  
<https://www.ijcai.org/proceedings/2019/381>  
**AUTHORS:** Qiuqiang Kong, Yong Xu, Philip J. B. Jackson, Wenwu Wang, Mark D. Plumbley  
**HIGHLIGHT:** We propose a synthesizing-decomposition (S-D) approach to solve the single-channel separation and deconvolution problem.

**382, TITLE:** Autoregressive Policies for Continuous Control Deep Reinforcement Learning  
<https://www.ijcai.org/proceedings/2019/382>  
**AUTHORS:** Dmytro Korenkevych, A. Rupam Mahmood, Gautham Vasan, James Bergstra  
**HIGHLIGHT:** We introduce a family of stationary autoregressive (AR) stochastic processes to facilitate exploration in continuous control domains.

**383, TITLE:** Adaptive Ensemble Active Learning for Drifting Data Stream Mining  
<https://www.ijcai.org/proceedings/2019/383>  
**AUTHORS:** Bartosz Krawczyk, Alberto Cano  
**HIGHLIGHT:** In this paper, we propose a novel active learning approach based on ensemble algorithms that is capable of using multiple base classifiers during the label query process.

**384, TITLE:** Learning Sound Events from Webly Labeled Data  
<https://www.ijcai.org/proceedings/2019/384>  
**AUTHORS:** Anurag Kumar, Ankit Shah, Alexander Hauptmann, Bhiksha Raj  
**HIGHLIGHT:** In this work, we introduce webly labeled learning for sound events which aims to remove human supervision altogether from the learning process.

**385, TITLE:** Harnessing the Vulnerability of Latent Layers in Adversarially Trained Models  
<https://www.ijcai.org/proceedings/2019/385>  
**AUTHORS:** Nupur Kumari, Mayank Singh, Abhishek Sinha, Harshitha Machiraju, Balaji Krishnamurthy, Vineeth N Balasubramanian  
**HIGHLIGHT:** Leveraging this information, we introduce a new technique Latent Adversarial Training (LAT) which comprises of fine-tuning the adversarially trained models to ensure the robustness at the feature layers.

**386, TITLE:** Perturbed-History Exploration in Stochastic Multi-Armed Bandits  
<https://www.ijcai.org/proceedings/2019/386>  
**AUTHORS:** Branislav Kveton, Csaba Szepesvári, Mohammad Ghavamzadeh, Craig Boutilier  
**HIGHLIGHT:** We propose an online algorithm for cumulative regret minimization in a stochastic multi-armed bandit.

**387, TITLE:** Meta Reinforcement Learning with Task Embedding and Shared Policy  
<https://www.ijcai.org/proceedings/2019/387>  
**AUTHORS:** Lin Lan, Zhenguo Li, Xiaohong Guan, Pinghui Wang  
**HIGHLIGHT:** In this paper, we propose to capture the shared information on the one hand and meta-learn how to quickly abstract the specific information about a task on the other hand.

**388, TITLE:** The Dangers of Post-hoc Interpretability: Unjustified Counterfactual Explanations  
<https://www.ijcai.org/proceedings/2019/388>  
**AUTHORS:** Thibault Laugel, Marie-Jeanne Lesot, Christophe Marsala, Xavier Renard, Marcin Detyniecki  
**HIGHLIGHT:** This paper focuses on the case of counterfactual explanations and asks whether the generated instances can be justified, i.e. continuously connected to some ground-truth data.

- 389, TITLE: Correlation-Sensitive Next-Basket Recommendation  
<https://www.ijcai.org/proceedings/2019/389>  
AUTHORS: Duc-Trong Le, Hady W. Lauw, Yuan Fang  
HIGHLIGHT: Towards this objective, we develop a hierarchical network architecture codenamed Beacon to model basket sequences.
- 390, TITLE: Learning Multiple Maps from Conditional Ordinal Triplets  
<https://www.ijcai.org/proceedings/2019/390>  
AUTHORS: Dung D. Le, Hady W. Lauw  
HIGHLIGHT: We formulate this problem as conditional ordinal embedding, which learns a distinct low-dimensional representation conditioned on each aspect, yet allows collaboration across aspects via a shared representation.
- 391, TITLE: Learning Generative Adversarial Networks from Multiple Data Sources  
<https://www.ijcai.org/proceedings/2019/391>  
AUTHORS: Trung Le, Quan Hoang, Hung Vu, Tu Dinh Nguyen, Hung Bui, Dinh Phung  
HIGHLIGHT: In this paper, we extend GAN to the problem of generating data that are not only close to a primary data source but also required to be different from auxiliary data sources.
- 392, TITLE: Action Space Learning for Heterogeneous User Behavior Prediction  
<https://www.ijcai.org/proceedings/2019/392>  
AUTHORS: Dongha Lee, Chanyoung Park, Hyunjun Ju, Junyoung Hwang, Hwanjo Yu  
HIGHLIGHT: This paper proposes a novel metric learning method, called METAS, to jointly model heterogeneous user behaviors.
- 393, TITLE: Learning Shared Knowledge for Deep Lifelong Learning using Deconvolutional Networks  
<https://www.ijcai.org/proceedings/2019/393>  
AUTHORS: Seungwon Lee, James Stokes, Eric Eaton  
HIGHLIGHT: Inspired by this idea, we introduce a novel architecture for sharing latent factorized representations in convolutional neural networks (CNNs).
- 394, TITLE: Similarity Preserving Representation Learning for Time Series Clustering  
<https://www.ijcai.org/proceedings/2019/394>  
AUTHORS: Qi Lei, Jinfeng Yi, Roman Vaculin, Lingfei Wu, Inderjit S. Dhillon  
HIGHLIGHT: In this paper, we bridge this gap by proposing an efficient representation learning framework that is able to convert a set of time series with various lengths to an instance-feature matrix.
- 395, TITLE: Differentially Private Optimal Transport: Application to Domain Adaptation  
<https://www.ijcai.org/proceedings/2019/395>  
AUTHORS: Nam LeTien, Amaury Habrard, Marc Sebban  
HIGHLIGHT: In this paper, we address the challenging task of privacy preserving domain adaptation by optimal transport.
- 396, TITLE: Cascading Non-Stationary Bandits: Online Learning to Rank in the Non-Stationary Cascade Model  
<https://www.ijcai.org/proceedings/2019/396>  
AUTHORS: Chang Li, Maarten de Rijke  
HIGHLIGHT: In this paper, we study the online learning to rank problem in a non-stationary environment where user preferences change abruptly at an unknown moment in time.
- 397, TITLE: A Review-Driven Neural Model for Sequential Recommendation  
<https://www.ijcai.org/proceedings/2019/397>  
AUTHORS: Chenliang Li, Xichuan Niu, Xiangyang Luo, Zhenzhong Chen, Cong Quan  
HIGHLIGHT: In this paper, we propose a novel review-driven neural sequential recommendation model (named RNS) by considering user's intrinsic preference (long-term) and sequential patterns (short-term).
- 398, TITLE: Hierarchical Representation Learning for Bipartite Graphs  
<https://www.ijcai.org/proceedings/2019/398>  
AUTHORS: Chong Li, Kunyang Jia, Dan Shen, C.J. Richard Shi, Hongxia Yang  
HIGHLIGHT: We propose to cluster the users into a set of communities and make recommendations based on the information of the users in the community collectively.
- 399, TITLE: Multi-Class Learning using Unlabeled Samples: Theory and Algorithm

<https://www.ijcai.org/proceedings/2019/399>

AUTHORS: Jian Li, Yong Liu, Rong Yin, Weiping Wang

HIGHLIGHT: In this paper, we investigate the generalization performance of multi-class classification, for which we obtain a shaper error bound by using the notion of local Rademacher complexity and additional unlabeled samples, substantially improving the state-of-the-art bounds in existing multi-class learning methods.

400, TITLE: Approximate Manifold Regularization: Scalable Algorithm and Generalization Analysis

<https://www.ijcai.org/proceedings/2019/400>

AUTHORS: Jian Li, Yong Liu, Rong Yin, Weiping Wang

HIGHLIGHT: In this paper, we propose an efficient graph-based semi-supervised algorithm with a sound theoretical guarantee.

401, TITLE: Dense Transformer Networks for Brain Electron Microscopy Image Segmentation

<https://www.ijcai.org/proceedings/2019/401>

AUTHORS: Jun Li, Yongjun Chen, Lei Cai, Ian Davidson, Shuiwang Ji

HIGHLIGHT: In this work, we propose the dense transformer networks, which can learn the shapes and sizes of patches from data.

402, TITLE: Learning Interpretable Deep State Space Model for Probabilistic Time Series Forecasting

<https://www.ijcai.org/proceedings/2019/402>

AUTHORS: Longyuan Li, Junchi Yan, Xiaokang Yang, Yaohui Jin

HIGHLIGHT: We propose a deep state space model for probabilistic time series forecasting whereby the non-linear emission model and transition model are parameterized by networks and the dependency is modeled by recurrent neural nets.

403, TITLE: Improving the Robustness of Deep Neural Networks via Adversarial Training with Triplet Loss

<https://www.ijcai.org/proceedings/2019/403>

AUTHORS: Pengcheng Li, Jinfeng Yi, Bowen Zhou, Lijun Zhang

HIGHLIGHT: In this paper, we improve the robustness of DNNs by utilizing techniques of Distance Metric Learning.

404, TITLE: Flexible Multi-View Representation Learning for Subspace Clustering

<https://www.ijcai.org/proceedings/2019/404>

AUTHORS: Ruihuang Li, Changqing Zhang, Qinghua Hu, Pengfei Zhu, Zheng Wang

HIGHLIGHT: In this paper, we propose to conduct subspace clustering based on Flexible Multi-view Representation (FMR) learning, which avoids using partial information for data reconstruction.

405, TITLE: Improved Algorithm on Online Clustering of Bandits

<https://www.ijcai.org/proceedings/2019/405>

AUTHORS: Shuai Li, Wei Chen, Shuai Li, Kwong-Sak Leung

HIGHLIGHT: A more efficient algorithm is proposed with simple set structures to represent clusters.

406, TITLE: Linear Time Complexity Time Series Clustering with Symbolic Pattern Forest

<https://www.ijcai.org/proceedings/2019/406>

AUTHORS: Xiaosheng Li, Jessica Lin, Liang Zhao

HIGHLIGHT: This paper presents a novel time series clustering algorithm that has linear time complexity.

407, TITLE: Learning Network Embedding with Community Structural Information

<https://www.ijcai.org/proceedings/2019/407>

AUTHORS: Yu Li, Ying Wang, Tingting Zhang, Jiawei Zhang, Yi Chang

HIGHLIGHT: Motivated by this, we propose a novel network embedding framework NECS to learn the Network Embedding with Community Structural information, which preserves the high-order proximity and incorporates the community structure in vertex representation learning.

408, TITLE: ARMIN: Towards a More Efficient and Light-weight Recurrent Memory Network

<https://www.ijcai.org/proceedings/2019/408>

AUTHORS: Zhangheng Li, Jia-Xing Zhong, Jingjia Huang, Tao Zhang, Thomas Li, Ge Li

HIGHLIGHT: In this paper, we introduce a novel MANN, the Auto-addressing and Recurrent Memory Integrating Network (ARMIN) to address these issues.

409, TITLE: Deep Adversarial Multi-view Clustering Network

<https://www.ijcai.org/proceedings/2019/409>

AUTHORS: Zhaoyang Li, Qianqian Wang, Zhiqiang Tao, Quanxue Gao, Zhaohua Yang  
HIGHLIGHT: In this paper, we propose a novel multi-view clustering method, named Deep Adversarial Multi-view Clustering (DAMC) network, to learn the intrinsic structure embedded in multi-view data.

410, TITLE: GCN-LASE: Towards Adequately Incorporating Link Attributes in Graph Convolutional Networks  
<https://www.ijcai.org/proceedings/2019/410>  
AUTHORS: Ziyao Li, Liang Zhang, Guojie Song  
HIGHLIGHT: We propose GCN-LASE (GCN with Link Attributes and Sampling Estimation), a novel GCN model taking both node and link attributes as inputs.

411, TITLE: Learning K-way D-dimensional Discrete Embedding for Hierarchical Data Visualization and Retrieval  
<https://www.ijcai.org/proceedings/2019/411>  
AUTHORS: Xiaoyuan Liang, Martin Renqiang Min, Hongyu Guo, Guiling Wang  
HIGHLIGHT: In this paper, we propose a regularized autoencoder framework to learn compact Hierarchical K-way D-dimensional (HKD) discrete embedding of symbols or data points, aiming at capturing essential semantic structures of data.

412, TITLE: Worst-Case Discriminative Feature Selection  
<https://www.ijcai.org/proceedings/2019/412>  
AUTHORS: Shuangli Liao, Quanxue Gao, Feiping Nie, Yang Liu, Xiangdong Zhang  
HIGHLIGHT: In this paper, we propose a new criterion for discriminative feature selection, worst-case discriminative feature selection (WDFS).

413, TITLE: Image-to-Image Translation with Multi-Path Consistency Regularization  
<https://www.ijcai.org/proceedings/2019/413>  
AUTHORS: Jianxin Lin, Yingce Xia, Yijun Wang, Tao Qin, Zhibo Chen  
HIGHLIGHT: In this work, we introduce a new kind of loss, multi-path consistency loss, which evaluates the differences between direct translation from source domain to target domain and indirect translation from source domain to an auxiliary domain to target domain, to regularize training.

414, TITLE: Balanced Clustering: A Uniform Model and Fast Algorithm  
<https://www.ijcai.org/proceedings/2019/414>  
AUTHORS: Weibo Lin, Zhu He, Mingyu Xiao  
HIGHLIGHT: In this paper, we present a balanced clustering model that is to minimize the sum of squared distances to cluster centers, with uniform regularization functions to control the balance degree of the clustering results.

415, TITLE: Feature Prioritization and Regularization Improve Standard Accuracy and Adversarial Robustness  
<https://www.ijcai.org/proceedings/2019/415>  
AUTHORS: Chihuang Liu, Joseph JaJa  
HIGHLIGHT: We propose a model that employs feature prioritization by a nonlinear attention module and L2 feature regularization to improve the adversarial robustness and the standard accuracy relative to adversarial training.

416, TITLE: Learning Instance-wise Sparsity for Accelerating Deep Models  
<https://www.ijcai.org/proceedings/2019/416>  
AUTHORS: Chuanjian Liu, Yunhe Wang, Kai Han, Chunjing Xu, Chang Xu  
HIGHLIGHT: In contrast, we study this problem from a different perspective by respecting the difference between data.

417, TITLE: Learning Robust Distance Metric with Side Information via Ratio Minimization of Orthogonally Constrained L21-Norm Distances  
<https://www.ijcai.org/proceedings/2019/417>  
AUTHORS: Kai Liu, Lodewijk Brand, Hua Wang, Feiping Nie  
HIGHLIGHT: In our objective, the orthonormal constraint is enforced to avoid degenerate solutions.

418, TITLE: Prototype Propagation Networks (PPN) for Weakly-supervised Few-shot Learning on Category Graph  
<https://www.ijcai.org/proceedings/2019/418>  
AUTHORS: Lu Liu, Tianyi Zhou, Guodong Long, Jing Jiang, Lina Yao, Chengqi Zhang  
HIGHLIGHT: In this paper, we show that weakly-labeled data can significantly improve the performance of meta-learning on few-shot classification.

419, TITLE: Margin Learning Embedded Prediction for Video Anomaly Detection with A Few Anomalies  
<https://www.ijcai.org/proceedings/2019/419>



AUTHORS: Wen Liu, Weixin Luo, Zhengxin Li, Peilin Zhao, Shenghua Gao  
HIGHLIGHT: Under the assumption that normal events can be well predicted, we propose a Margin Learning Embedded Prediction (MLEP) framework.

420, TITLE: Supervised Short-Length Hashing  
<https://www.ijcai.org/proceedings/2019/420>  
AUTHORS: Xingbo Liu, Xiushan Nie, Quan Zhou, Xiaoming Xi, Lei Zhu, Yilong Yin  
HIGHLIGHT: To address this issue, in this study, we propose a novel supervised short-length hashing (SSLH).

421, TITLE: Graph and Autoencoder Based Feature Extraction for Zero-shot Learning  
<https://www.ijcai.org/proceedings/2019/421>  
AUTHORS: Yang Liu, Deyan Xie, Quanxue Gao, Jungong Han, Shujian Wang, Xinbo Gao  
HIGHLIGHT: In order to solve these problems, we formulate a novel framework named Graph and Autoencoder Based Feature Extraction (GAFE) to seek a low-rank mapping to preserve the sub-manifold of samples.

422, TITLE: Accelerated Incremental Gradient Descent using Momentum Acceleration with Scaling Factor  
<https://www.ijcai.org/proceedings/2019/422>  
AUTHORS: Yuanyuan Liu, Fanhua Shang, Licheng Jiao  
HIGHLIGHT: In this paper, we design a novel and simple momentum to accelerate the classical SAGA algorithm, and propose a direct accelerated incremental gradient descent algorithm.

423, TITLE: Omnidirectional Scene Text Detection with Sequential-free Box Discretization  
<https://www.ijcai.org/proceedings/2019/423>  
AUTHORS: Yuliang Liu, Sheng Zhang, Lianwen Jin, Lele Xie, Yaqiang Wu, Zhepeng Wang  
HIGHLIGHT: To address this issue, in this paper, we propose a novel method called Sequential-free Box Discretization (SBD) by discretizing the bounding box into key edges (KE) which can further derive more effective methods to improve detection performance.

424, TITLE: Hi-Fi Ark: Deep User Representation via High-Fidelity Archive Network  
<https://www.ijcai.org/proceedings/2019/424>  
AUTHORS: Zheng Liu, Yu Xing, Fangzhao Wu, Mingxiao An, Xing Xie  
HIGHLIGHT: In this work, a novel user representation framework, Hi-Fi Ark, is proposed.

425, TITLE: Learning Low-precision Neural Networks without Straight-Through Estimator (STE)  
<https://www.ijcai.org/proceedings/2019/425>  
AUTHORS: Zhi-Gang Liu, Matthew Mattina  
HIGHLIGHT: We propose an alternative methodology called alpha-blending (AB), which quantizes neural networks to low precision using stochastic gradient descent (SGD).

426, TITLE: Parametric Manifold Learning of Gaussian Mixture Models  
<https://www.ijcai.org/proceedings/2019/426>  
AUTHORS: Ziquan Liu, Lei Yu, Janet H. Hsiao, Antoni B. Chan  
HIGHLIGHT: In this paper, we propose Parametric Manifold Learning of GMMs (PML-GMM), which learns a parametric mapping from a low-dimensional latent space to a high-dimensional GMM manifold.

427, TITLE: Multi-Objective Generalized Linear Bandits  
<https://www.ijcai.org/proceedings/2019/427>  
AUTHORS: Shiyin Lu, Guanghui Wang, Yao Hu, Lijun Zhang  
HIGHLIGHT: In this paper, we study the multi-objective bandits (MOB) problem, where a learner repeatedly selects one arm to play and then receives a reward vector consisting of multiple objectives.

428, TITLE: Knowledge Amalgamation from Heterogeneous Networks by Common Feature Learning  
<https://www.ijcai.org/proceedings/2019/428>  
AUTHORS: Sihui Luo, Xinchao Wang, Gongfan Fang, Yao Hu, Dapeng Tao, Mingli Song  
HIGHLIGHT: In this paper, we study a deep-model reusing task, where we are given as input pre-trained networks of heterogeneous architectures specializing in distinct tasks, as teacher models.

429, TITLE: E<sup>2</sup>GAN: End-to-End Generative Adversarial Network for Multivariate Time Series Imputation  
<https://www.ijcai.org/proceedings/2019/429>  
AUTHORS: Yonghong Luo, Ying Zhang, Xiangrui Cai, Xiaojie Yuan

**HIGHLIGHT:** This paper proposes an end-to-end generative model E<sup>2</sup>GAN to impute missing values in multivariate time series.

430, **TITLE:** Weakly Supervised Multi-Label Learning via Label Enhancement

<https://www.ijcai.org/proceedings/2019/430>

**AUTHORS:** JiaQi Lv, Ning Xu, RenYi Zheng, Xin Geng

**HIGHLIGHT:** In this paper, a novel two-stage strategy named Weakly Supervised Multi-label Learning via Label Enhancement (WSMLLE) is proposed to learn from weakly supervised data via label enhancement.

431, **TITLE:** AttnSense: Multi-level Attention Mechanism For Multimodal Human Activity Recognition

<https://www.ijcai.org/proceedings/2019/431>

**AUTHORS:** HaoJie Ma, Wenzhong Li, Xiao Zhang, Songcheng Gao, Sanglu Lu

**HIGHLIGHT:** In this paper, we propose a novel attention-based multimodal neural network model called AttnSense for multimodal human activity recognition.

432, **TITLE:** Monte Carlo Tree Search for Policy Optimization

<https://www.ijcai.org/proceedings/2019/432>

**AUTHORS:** Xiaobai Ma, Katherine Driggs-Campbell, Zongzhang Zhang, Mykel J. Kochenderfer

**HIGHLIGHT:** This paper presents a method for policy optimization based on Monte-Carlo tree search and gradient-free optimization.

433, **TITLE:** Coarse-to-Fine Image Inpainting via Region-wise Convolutions and Non-Local Correlation

<https://www.ijcai.org/proceedings/2019/433>

**AUTHORS:** Yuqing Ma, Xianglong Liu, Shihao Bai, Lei Wang, Dailan He, Aishan Liu

**HIGHLIGHT:** To address these problems, we first propose region-wise convolutions to locally deal with the different types of regions, which can help exactly reconstruct existing regions and roughly infer the missing ones from existing regions at the same time.

434, **TITLE:** On Principled Entropy Exploration in Policy Optimization

<https://www.ijcai.org/proceedings/2019/434>

**AUTHORS:** Jincheng Mei, Chenjun Xiao, Ruitong Huang, Dale Schuurmans, Martin Müller

**HIGHLIGHT:** In this paper, we investigate Exploratory Conservative Policy Optimization (ECPO), a policy optimization strategy that improves exploration behavior while assuring monotonic progress in a principled objective.

435, **TITLE:** Anytime Bottom-Up Rule Learning for Knowledge Graph Completion

<https://www.ijcai.org/proceedings/2019/435>

**AUTHORS:** Christian Meilicke, Melisachew Wudage Chekol, Daniel Ruffinelli, Heiner Stuckenschmidt

**HIGHLIGHT:** We propose an anytime bottom-up technique for learning logical rules from large knowledge graphs.

436, **TITLE:** Unsupervised Hierarchical Temporal Abstraction by Simultaneously Learning Expectations and Representations

<https://www.ijcai.org/proceedings/2019/436>

**AUTHORS:** Katherine Metcalf, David Leake

**HIGHLIGHT:** This paper presents ENHANCE, an algorithm that simultaneously learns a predictive model of the input stream and generates representations of the concepts being observed.

437, **TITLE:** Meta-Learning for Low-resource Natural Language Generation in Task-oriented Dialogue Systems

<https://www.ijcai.org/proceedings/2019/437>

**AUTHORS:** Fei Mi, Minlie Huang, Jiyong Zhang, Boi Faltings

**HIGHLIGHT:** In this paper, we study NLG in a low-resource setting to generate sentences in new scenarios with handful training examples.

438, **TITLE:** Robust Flexible Feature Selection via Exclusive L21 Regularization

<https://www.ijcai.org/proceedings/2019/438>

**AUTHORS:** Di Ming, Chris Ding

**HIGHLIGHT:** Thus, in this paper, we introduce a novel regularization called "exclusive L21", which is short for "L21 with exclusive lasso", towards robust flexible feature selection.

439, **TITLE:** Advantage Amplification in Slowly Evolving Latent-State Environments

<https://www.ijcai.org/proceedings/2019/439>

**AUTHORS:** Martin Mladenov, Ofer Meshi, Jayden Ooi, Dale Schuurmans, Craig Boutilier

**HIGHLIGHT:** In this work, we identify and analyze several key hurdles for RL in such environments, including belief state error and small action advantage.

440, **TITLE:** Deep Variational Koopman Models: Inferring Koopman Observations for Uncertainty-Aware Dynamics Modeling and Control

<https://www.ijcai.org/proceedings/2019/440>

**AUTHORS:** Jeremy Morton, Freddie D. Witherden, Mykel J. Kochenderfer

**HIGHLIGHT:** We introduce the Deep Variational Koopman (DVK) model, a method for inferring distributions over observations that can be propagated linearly in time.

441, **TITLE:** DyAt Nets: Dynamic Attention Networks for State Forecasting in Cyber-Physical Systems

<https://www.ijcai.org/proceedings/2019/441>

**AUTHORS:** Nikhil Muralidhar, Sathappan Muthiah, Naren Ramakrishnan

**HIGHLIGHT:** In this paper, we propose DyAt (Dynamic Attention) networks, a novel deep learning sequence to sequence (Seq2Seq) model with a novel hierarchical attention mechanism for long-term time series state forecasting.

442, **TITLE:** Outlier-Robust Multi-Aspect Streaming Tensor Completion and Factorization

<https://www.ijcai.org/proceedings/2019/442>

**AUTHORS:** Mehrnaz Najafi, Lifang He, Philip S. Yu

**HIGHLIGHT:** In this paper, we propose a novel method for Outlier-Robust Multi-Aspect Streaming Tensor Completion and Factorization (OR-MSTC), which is a technique capable of dealing with missing values and outliers in multi-aspect streaming tensor data.

443, **TITLE:** Incremental Learning of Planning Actions in Model-Based Reinforcement Learning

<https://www.ijcai.org/proceedings/2019/443>

**AUTHORS:** Jun Hao Alvin Ng, Ronald P. A. Petrick

**HIGHLIGHT:** We introduce the novel concept of reliability as an intrinsic motivation for MBRL, and a method to learn from failure to prevent repeated instances of similar failures.

444, **TITLE:** Group LASSO with Asymmetric Structure Estimation for Multi-Task Learning

<https://www.ijcai.org/proceedings/2019/444>

**AUTHORS:** Saullo H. G. Oliveira, André R. Gonçalves, Fernando J. Von Zuben

**HIGHLIGHT:** Our proposal is the first attempt in the literature to conceive a Group LASSO with asymmetric transference formulation, looking for the best of both worlds in a framework that admits the overlap of groups.

445, **TITLE:** Hill Climbing on Value Estimates for Search-control in Dyna

<https://www.ijcai.org/proceedings/2019/445>

**AUTHORS:** Yangchen Pan, Hengshuai Yao, Amir-massoud Farahmand, Martha White

**HIGHLIGHT:** In this work, we propose to generate such states by using the trajectory obtained from Hill Climbing (HC) the current estimate of the value function.

446, **TITLE:** Indirect Trust is Simple to Establish

<https://www.ijcai.org/proceedings/2019/446>

**AUTHORS:** Elham Parhizkar, Mohammad Hossein Nikravan, Sandra Zilles

**HIGHLIGHT:** We propose a new and easy to implement method for computing indirect trust, based on a simple prediction with expert advice strategy as is often used in online learning.

447, **TITLE:** Exploiting Interaction Links for Node Classification with Deep Graph Neural Networks

<https://www.ijcai.org/proceedings/2019/447>

**AUTHORS:** Hogun Park, Jennifer Neville

**HIGHLIGHT:** In this paper, we propose a neural network architecture that jointly captures both temporal and static interaction patterns, which we call Temporal-Static-Graph-Net (TSGNet).

448, **TITLE:** Improving Cross-lingual Entity Alignment via Optimal Transport

<https://www.ijcai.org/proceedings/2019/448>

**AUTHORS:** Shichao Pei, Lu Yu, Xiangliang Zhang

**HIGHLIGHT:** We propose a novel entity alignment framework (OTEA), which dually optimizes the entity-level loss and group-level loss via optimal transport theory.

449, **TITLE:** Fine-grained Event Categorization with Heterogeneous Graph Convolutional Networks

<https://www.ijcai.org/proceedings/2019/449>

**AUTHORS:** Hao Peng, Jianxin Li, Qiran Gong, Yangqiu Song, Yuanxin Ning, Kunfeng Lai, Philip S. Yu  
**HIGHLIGHT:** In this paper, we design an event meta-schema to characterize the semantic relatedness of social events and build an event-based heterogeneous information network (HIN) integrating information from external knowledge base, and propose a novel Pairwise Popularity Graph Convolutional Network (PP-GCN) based fine-grained social event categorization model.

450, **TITLE:** A Practical Semi-Parametric Contextual Bandit

<https://www.ijcai.org/proceedings/2019/450>

**AUTHORS:** Yi Peng, Miao Xie, Jiahao Liu, Xuying Meng, Nan Li, Cheng Yang, Tao Yao, Rong Jin  
**HIGHLIGHT:** In this paper, we formulate a novel Semi-Parametric Contextual Bandit Problem to relax this assumption.

451, **TITLE:** Graph Space Embedding

<https://www.ijcai.org/proceedings/2019/451>

**AUTHORS:** João Pereira, Albert K. Groen, Erik S. G. Stroes, Evgeni Levin  
**HIGHLIGHT:** We propose the Graph Space Embedding (GSE), a technique that maps the input into a space where interactions are implicitly encoded, with little computations required.

452, **TITLE:** An Atari Model Zoo for Analyzing, Visualizing, and Comparing Deep Reinforcement Learning Agents

<https://www.ijcai.org/proceedings/2019/452>

**AUTHORS:** Felipe Petroski Such, Vashisht Madhavan, Rosanne Liu, Rui Wang, Pablo Samuel Castro, Yulun Li, Jiale Zhi, Ludwig Schubert, Marc G. Bellemare, Jeff Clune, Joel Lehman  
**HIGHLIGHT:** This paper introduces the Atari Zoo framework, which contains models trained across benchmark Atari games, in an easy-to-use format, as well as code that implements common modes of analysis and connects such models to a popular neural network visualization library.

453, **TITLE:** Improving representation learning in autoencoders via multidimensional interpolation and dual regularizations

<https://www.ijcai.org/proceedings/2019/453>

**AUTHORS:** Sheng Qian, Guanyue Li, Wen-Ming Cao, Cheng Liu, Si Wu, Hau San Wong  
**HIGHLIGHT:** Specifically, we propose the multidimensional interpolation to increase the capability of data interpolation by randomly setting interpolation coefficients for each dimension of latent representations.

454, **TITLE:** Scalable Bayesian Non-linear Matrix Completion

<https://www.ijcai.org/proceedings/2019/454>

**AUTHORS:** Xiangju Qin, Paul Blomstedt, Samuel Kaski  
**HIGHLIGHT:** To solve the challenges regarding scalability and computation, we propose a data-parallel distributed computational approach with a restricted communication scheme.

455, **TITLE:** Noise-Resilient Similarity Preserving Network Embedding for Social Networks

<https://www.ijcai.org/proceedings/2019/455>

**AUTHORS:** Zhenyu Qiu, Wenbin Hu, Jia Wu, ZhongZheng Tang, Xiaohua Jia  
**HIGHLIGHT:** In this paper, we aim to exploit node similarity to address the problem of social network embedding with noise and propose a node similarity preserving (NSP) embedding method.

456, **TITLE:** Fairwalk: Towards Fair Graph Embedding

<https://www.ijcai.org/proceedings/2019/456>

**AUTHORS:** Tahleen Rahman, Bartłomiej Surma, Michael Backes, Yang Zhang  
**HIGHLIGHT:** We, therefore, propose a fairness-aware embedding method, namely Fairwalk, which extends node2vec.

457, **TITLE:** Automated Machine Learning with Monte-Carlo Tree Search

<https://www.ijcai.org/proceedings/2019/457>

**AUTHORS:** Herilalaina Rakotoarison, Marc Schoenauer, Michèle Sebag  
**HIGHLIGHT:** A Monte-Carlo Tree Search Algorithm Selection and Configuration (Mosaic) approach is presented to tackle this mixed (combinatorial and continuous) expensive optimization problem on the structured search space of ML pipelines.

458, **TITLE:** Successor Options: An Option Discovery Framework for Reinforcement Learning

<https://www.ijcai.org/proceedings/2019/458>

**AUTHORS:** Rahul Ramesh, Manan Tomar, Balaraman Ravindran  
**HIGHLIGHT:** In this work, we instead adopt a complementary approach, where we attempt to discover options that navigate to landmark states.

- 459, TITLE: Unifying the Stochastic and the Adversarial Bandits with Knapsack  
<https://www.ijcai.org/proceedings/2019/459>  
AUTHORS: Anshuka Rangi, Massimo Franceschetti, Long Tran-Thanh  
HIGHLIGHT: We propose a novel algorithm EXP3.BwK and show that the expected regret of the algorithm is order optimal in the budget.
- 460, TITLE: Label distribution learning with label-specific features  
<https://www.ijcai.org/proceedings/2019/460>  
AUTHORS: Tingting Ren, Xiuyi Jia, Weiwei Li, Lei Chen, Zechao Li  
HIGHLIGHT: In this paper, we propose a novel LDL algorithm by leveraging label-specific features.
- 461, TITLE: Label Distribution Learning with Label Correlations via Low-Rank Approximation  
<https://www.ijcai.org/proceedings/2019/461>  
AUTHORS: Tingting Ren, Xiuyi Jia, Weiwei Li, Shu Zhao  
HIGHLIGHT: In this paper, we utilize both the global and local relevance among labels to provide more information for training model and propose a novel label distribution learning algorithm.
- 462, TITLE: Closed-Loop Memory GAN for Continual Learning  
<https://www.ijcai.org/proceedings/2019/462>  
AUTHORS: Amanda Rios, Laurent Itti  
HIGHLIGHT: Here we propose a cumulative closed-loop memory replay GAN (CloGAN) provided with external regularization by a small memory unit selected for maximum sample diversity.
- 463, TITLE: Complementary Learning for Overcoming Catastrophic Forgetting Using Experience Replay  
<https://www.ijcai.org/proceedings/2019/463>  
AUTHORS: Mohammad Rostami, Soheil Kolouri, Praveen K. Pilly  
HIGHLIGHT: Inspired from complementary learning systems theory, we address this challenge by learning a generative model that couples the current task to the past learned tasks through a discriminative embedding space.
- 464, TITLE: Discovering Regularities from Traditional Chinese Medicine Prescriptions via Bipartite Embedding Model  
<https://www.ijcai.org/proceedings/2019/464>  
AUTHORS: Chunyang Ruan, Jiangang Ma, Ye Wang, Yanchun Zhang, Yun Yang  
HIGHLIGHT: In this paper, we address the specific problem of regularities discovery and propose a graph embedding based framework for regularities discovery for massive prescriptions.
- 465, TITLE: A Degeneracy Framework for Scalable Graph Autoencoders  
<https://www.ijcai.org/proceedings/2019/465>  
AUTHORS: Guillaume Salha, Romain Hennequin, Viet Anh Tran, Michalis Vazirgiannis  
HIGHLIGHT: In this paper, we present a general framework to scale graph autoencoders (AE) and graph variational autoencoders (VAE).
- 466, TITLE: Deterministic Routing between Layout Abstractions for Multi-Scale Classification of Visually Rich Documents  
<https://www.ijcai.org/proceedings/2019/466>  
AUTHORS: Ritesh Sarkhel, Arnab Nandi  
HIGHLIGHT: There are two major contributions of this work. First, we propose a spatial pyramid model to extract highly discriminative multi-scale feature descriptors from a visually rich document by leveraging the inherent hierarchy of its layout. Second, we propose a deterministic routing scheme for accelerating end-to-end inference by utilizing the spatial pyramid model.
- 467, TITLE: SynthNet: Learning to Synthesize Music End-to-End  
<https://www.ijcai.org/proceedings/2019/467>  
AUTHORS: Florin Schimbinschi, Christian Walder, Sarah M. Erfani, James Bailey  
HIGHLIGHT: We propose a specific architecture based on WaveNet, a convolutional autoregressive generative model designed for text to speech.
- 468, TITLE: Weakly Supervised Multi-task Learning for Semantic Parsing  
<https://www.ijcai.org/proceedings/2019/468>  
AUTHORS: Bo Shao, Yeyun Gong, Junwei Bao, Jianshu Ji, Guihong Cao, Xiaola Lin, Nan Duan  
HIGHLIGHT: We propose an effective method which substantially utilizes labeling information from other tasks to enhance the training of a semantic parser.

- 469, TITLE: Community Detection and Link Prediction via Cluster-driven Low-rank Matrix Completion  
<https://www.ijcai.org/proceedings/2019/469>  
AUTHORS: Junming Shao, Zhong Zhang, Zhongjing Yu, Jun Wang, Yi Zhao, Qinli Yang  
HIGHLIGHT: In this paper, we propose a Cluster-driven Low-rank Matrix Completion (CLMC), for performing community detection and link prediction simultaneously in a unified framework.
- 470, TITLE: On the Effectiveness of Low Frequency Perturbations  
<https://www.ijcai.org/proceedings/2019/470>  
AUTHORS: Yash Sharma, Gavin Weiguang Ding, Marcus A. Brubaker  
HIGHLIGHT: This questions the use of the L-inf-norm, in particular, as a distortion metric, and, in turn, suggests that explicitly considering the frequency space is promising for learning robust models which better align with human perception.
- 471, TITLE: A Part Power Set Model for Scale-Free Person Retrieval  
<https://www.ijcai.org/proceedings/2019/471>  
AUTHORS: Yunhang Shen, Rongrong Ji, Xiaopeng Hong, Feng Zheng, Xiaowei Guo, Yongjian Wu, Feiyue Huang  
HIGHLIGHT: In this paper, to lighten the restriction of such fixed and coarse input alignment, an end-to-end part power set model with multi-scale features is proposed, which captures the discriminative parts of pedestrians from global to local, and from coarse to fine, enabling part-based scale-free person re-ID.
- 472, TITLE: Rapid Performance Gain through Active Model Reuse  
<https://www.ijcai.org/proceedings/2019/472>  
AUTHORS: Feng Shi, Yu-Feng Li  
HIGHLIGHT: In this paper, we propose the AcMR (Active Model Reuse) method for the rapid performance improvement problem.
- 473, TITLE: A Convergence Analysis of Distributed SGD with Communication-Efficient Gradient Sparsification  
<https://www.ijcai.org/proceedings/2019/473>  
AUTHORS: Shaohuai Shi, Kaiyong Zhao, Qiang Wang, Zhenheng Tang, Xiaowen Chu  
HIGHLIGHT: In this paper, we first provide theoretical proofs on the convergence of the gTop-k scheme for non-convex objective functions under certain analytic assumptions. We then derive the convergence rate of gTop-k S-SGD, which is at the same order as the vanilla mini-batch SGD.
- 474, TITLE: Quadruply Stochastic Gradients for Large Scale Nonlinear Semi-Supervised AUC Optimization  
<https://www.ijcai.org/proceedings/2019/474>  
AUTHORS: Wanli Shi, Bin Gu, Xiang Li, Xiang Geng, Heng Huang  
HIGHLIGHT: To address this problem, in this paper, we propose a novel scalable quadruply stochastic gradient algorithm (QSG-S2AUC) for nonlinear semi-supervised AUC optimization.
- 475, TITLE: Soft Policy Gradient Method for Maximum Entropy Deep Reinforcement Learning  
<https://www.ijcai.org/proceedings/2019/475>  
AUTHORS: Wenjie Shi, Shiji Song, Cheng Wu  
HIGHLIGHT: To ensure stable learning while eliminating the need of two separate critics for soft value functions, we leverage double sampling approach to making the soft Bellman equation tractable.
- 476, TITLE: Gradient Boosting with Piece-Wise Linear Regression Trees  
<https://www.ijcai.org/proceedings/2019/476>  
AUTHORS: Yu Shi, Jian Li, Zhize Li  
HIGHLIGHT: In this paper, we show that both the accuracy and efficiency of GBDT can be further enhanced by using more complex base learners.
- 477, TITLE: The Pupil Has Become the Master: Teacher-Student Model-Based Word Embedding Distillation with Ensemble Learning  
<https://www.ijcai.org/proceedings/2019/477>  
AUTHORS: Bonggun Shin, Hao Yang, Jinho D. Choi  
HIGHLIGHT: This paper touches the core of neural models in NLP, word embeddings, and presents an embedding distillation framework that remarkably reduces the dimension of word embeddings without compromising accuracy.
- 478, TITLE: A Principled Approach for Learning Task Similarity in Multitask Learning  
<https://www.ijcai.org/proceedings/2019/478>  
AUTHORS: Changjian Shui, Mahdieh Abbasi, Louis-Émile Robitaille, Boyu Wang, Christian Gagné  
HIGHLIGHT: In this paper, we give a different perspective from a theoretical point of view to understand this practice.

- 479, TITLE: Structure Learning for Safe Policy Improvement  
<https://www.ijcai.org/proceedings/2019/479>  
AUTHORS: Thiago D. Simão, Matthijs T. J. Spaan  
HIGHLIGHT: To overcome these limitations we enhance a Factored SPI (FSPI) algorithm with different structure learning methods.
- 480, TITLE: Play and Prune: Adaptive Filter Pruning for Deep Model Compression  
<https://www.ijcai.org/proceedings/2019/480>  
AUTHORS: Pravendra Singh, Vinay Kumar Verma, Piyush Rai, Vinay P. Namboodiri  
HIGHLIGHT: We present a new min-max framework for filter-level pruning of CNNs.
- 481, TITLE: Solving Continual Combinatorial Selection via Deep Reinforcement Learning  
<https://www.ijcai.org/proceedings/2019/481>  
AUTHORS: Hyungseok Song, Hyeryung Jang, Hai H. Tran, Se-eun Yoon, Kyunghwan Son, Donggyu Yun, Hyoju Chung, Yung Yi  
HIGHLIGHT: In this paper, we present a deep RL algorithm to solve this issue by adopting the following key ideas.
- 482, TITLE: Playing FPS Games With Environment-Aware Hierarchical Reinforcement Learning  
<https://www.ijcai.org/proceedings/2019/482>  
AUTHORS: Shihong Song, Jiayi Weng, Hang Su, Dong Yan, Haosheng Zou, Jun Zhu  
HIGHLIGHT: Specifically, we present a hierarchical model that works in a manager-worker fashion over two levels of hierarchy.
- 483, TITLE: Parallel Wasserstein Generative Adversarial Nets with Multiple Discriminators  
<https://www.ijcai.org/proceedings/2019/483>  
AUTHORS: Yuxin Su, Shenglin Zhao, Xixian Chen, Irwin King, Michael Lyu  
HIGHLIGHT: In this paper, we solve the computation cost problem by speeding up the Wasserstein GANs from a well-designed communication efficient parallel architecture.
- 484, TITLE: Finding Statistically Significant Interactions between Continuous Features  
<https://www.ijcai.org/proceedings/2019/484>  
AUTHORS: Mahito Sugiyama, Karsten Borgwardt  
HIGHLIGHT: We propose an algorithm which overcomes the combinatorial explosion of the search space of higher-order interactions by deriving a lower bound on the p-value for each interaction, which enables us to massively prune interactions that can never reach significance and to thereby gain more statistical power.
- 485, TITLE: Fast and Robust Multi-View Multi-Task Learning via Group Sparsity  
<https://www.ijcai.org/proceedings/2019/485>  
AUTHORS: Lu Sun, Canh Hao Nguyen, Hiroshi Mamitsuka  
HIGHLIGHT: To overcome these limitations, we propose a robust method with joint group-sparsity by decomposing feature parameters into a sum of two components, in which one saves relevant features (for Problem 1) and flexible view consistency (for Problem 2), while the other detects task-view outliers (for Problem 3).
- 486, TITLE: Multiplicative Sparse Feature Decomposition for Efficient Multi-View Multi-Task Learning  
<https://www.ijcai.org/proceedings/2019/486>  
AUTHORS: Lu Sun, Canh Hao Nguyen, Hiroshi Mamitsuka  
HIGHLIGHT: In this paper, we propose a new method to directly handle these challenges based on multiplicative sparse feature decomposition.
- 487, TITLE: Adversarial Imitation Learning from Incomplete Demonstrations  
<https://www.ijcai.org/proceedings/2019/487>  
AUTHORS: Mingfei Sun, Xiaojuan Ma  
HIGHLIGHT: In this paper, we propose a novel algorithm called Action-Guided Adversarial Imitation Learning (AGAIL) that learns a policy from demonstrations with incomplete action sequences, i.e., incomplete demonstrations.
- 488, TITLE: Heavy-ball Algorithms Always Escape Saddle Points  
<https://www.ijcai.org/proceedings/2019/488>  
AUTHORS: Tao Sun, Dongsheng Li, Zhe Quan, Hao Jiang, Shengguo Li, Yong Dou



**HIGHLIGHT:** In this paper, we answer a question:&nbsp;can the nonconvex heavy-ball algorithms with random initialization avoid saddle points?

489, **TITLE:** MEGAN: A Generative Adversarial Network for Multi-View Network Embedding  
<https://www.ijcai.org/proceedings/2019/489>

**AUTHORS:** Yiwei Sun, Suhang Wang, Tsung-Yu Hsieh, Xianfeng Tang, Vasant Honavar

**HIGHLIGHT:** Against this background, we consider the multi-view network representation learning problem, i.e., the problem of constructing low-dimensional information preserving embeddings of multi-view networks.

490, **TITLE:** Metric Learning on Healthcare Data with Incomplete Modalities  
<https://www.ijcai.org/proceedings/2019/490>

**AUTHORS:** Qiuling Suo, Weida Zhong, Fenglong Ma, Ye Yuan, Jing Gao, Aidong Zhang

**HIGHLIGHT:** To tackle the aforementioned challenges, we propose a metric learning framework to perform missing modality completion and multi-modal metric learning simultaneously.

491, **TITLE:** HMLasso: Lasso with High Missing Rate  
<https://www.ijcai.org/proceedings/2019/491>

**AUTHORS:** Masaaki Takada, Hironori Fujisawa, Takeichiro Nishikawa

**HIGHLIGHT:** In this paper, we propose a novel Lasso-type regression method for high-dimensional data with high missing rates.

492, **TITLE:** Deeply-learned Hybrid Representations for Facial Age Estimation  
<https://www.ijcai.org/proceedings/2019/492>

**AUTHORS:** Zichang Tan, Yang Yang, Jun Wan, Guodong Guo, Stan Z. Li

**HIGHLIGHT:** In this paper, we propose a novel unified network named Deep Hybrid-Aligned Architecture for facial age estimation.

493, **TITLE:** AugBoost: Gradient Boosting Enhanced with Step-Wise Feature Augmentation  
<https://www.ijcai.org/proceedings/2019/493>

**AUTHORS:** Philip Tannor, Lior Rokach

**HIGHLIGHT:** In this paper we introduce a method for obtaining better results, by augmenting the features in the dataset between the iterations of GBDT.

494, **TITLE:** Adversarial Graph Embedding for Ensemble Clustering  
<https://www.ijcai.org/proceedings/2019/494>

**AUTHORS:** Zhiqiang Tao, Hongfu Liu, Jun Li, Zhaowen Wang, Yun Fu

**HIGHLIGHT:** In this paper, we propose a novel Adversarial Graph Auto-Encoders (AGAE) model to incorporate ensemble clustering into a deep graph embedding process.

495, **TITLE:** Hierarchical Inter-Attention Network for Document Classification with Multi-Task Learning  
<https://www.ijcai.org/proceedings/2019/495>

**AUTHORS:** Bing Tian, Yong Zhang, Jin Wang, Chunxiao Xing

**HIGHLIGHT:** In this paper, we propose a multi-task learning framework to jointly train multiple related document classification tasks.

496, **TITLE:** Image Captioning with Compositional Neural Module Networks  
<https://www.ijcai.org/proceedings/2019/496>

**AUTHORS:** Junjiao Tian, Jean Oh

**HIGHLIGHT:** Inspired by the idea of the compositional neural module networks in the visual question answering task, we introduce a hierarchical framework for image captioning that explores both compositionality and sequentiality of natural language.

497, **TITLE:** Imitation Learning from Video by Leveraging Proprioception  
<https://www.ijcai.org/proceedings/2019/497>

**AUTHORS:** Faraz Torabi, Garrett Warnell, Peter Stone

**HIGHLIGHT:** Motivated by the fact that agents often also have access to their own internal states (i.e., proprioception), we propose and study an IfO algorithm that leverages this information in the policy learning process.

498, **TITLE:** Exchangeability and Kernel Invariance in Trained MLPs  
<https://www.ijcai.org/proceedings/2019/498>

**AUTHORS:** Russell Tsuchida, Fred Roosta, Marcus Gallagher

HIGHLIGHT: We show the sense in which the weights in MLPs are exchangeable.

499, TITLE: Deeper Connections between Neural Networks and Gaussian Processes Speed-up Active Learning

<https://www.ijcai.org/proceedings/2019/499>

AUTHORS: Evgenii Tsymbalov, Sergei Makarychev, Alexander Shapeev, Maxim Panov

HIGHLIGHT: In this work, we propose to approximate Bayesian neural networks (BNN) by Gaussian processes (GP), which allows us to update the uncertainty estimates of predictions efficiently without retraining the neural network while avoiding overconfident uncertainty prediction for out-of-sample points.

500, TITLE: Object Detection based Deep Unsupervised Hashing

<https://www.ijcai.org/proceedings/2019/500>

AUTHORS: Rong-Cheng Tu, Xian-Ling Mao, Bo-Si Feng, Shu-ying Yu

HIGHLIGHT: Thus, in this paper, we propose a novel Object Detection based Deep Unsupervised Hashing method (ODDUH).

501, TITLE: Ensemble-based Ultrahigh-dimensional Variable Screening

<https://www.ijcai.org/proceedings/2019/501>

AUTHORS: Wei Tu, Dong Yang, Linglong Kong, Menglu Che, Qian Shi, Guodong Li, Guangjian Tian

HIGHLIGHT: In this paper, we introduce a general ensemble-based framework to efficiently combine results from multiple variable screening methods.

502, TITLE: Learning to Interpret Satellite Images using Wikipedia

<https://www.ijcai.org/proceedings/2019/502>

AUTHORS: Burak Uz Kent, Evan Sheehan, Chenlin Meng, Zhongyi Tang, Marshall Burke, David Lobell, Stefano Ermon

HIGHLIGHT: To overcome this limitation, we construct a novel dataset called WikiSatNet by pairing geo-referenced Wikipedia articles with satellite imagery of their corresponding locations. We then propose two strategies to learn representations of satellite images by predicting properties of the corresponding articles from the images.

503, TITLE: DeepCU: Integrating both Common and Unique Latent Information for Multimodal Sentiment Analysis

<https://www.ijcai.org/proceedings/2019/503>

AUTHORS: Sunny Verma, Chen Wang, Liming Zhu, Wei Liu

HIGHLIGHT: In this research, we first propose a novel deep architecture to extract the common information from the multi-mode representations. Furthermore, we propose unique networks to obtain the modality-specific information that enhances the generalization performance of our multimodal system. Finally, we integrate these two aspects of information via a fusion layer and propose a novel multimodal data fusion architecture, which we call DeepCU (Deep network with both Common and Unique latent information).

504, TITLE: Interpolation Consistency Training for Semi-supervised Learning

<https://www.ijcai.org/proceedings/2019/504>

AUTHORS: Vikas Verma, Alex Lamb, Juho Kannala, Yoshua Bengio, David Lopez-Paz

HIGHLIGHT: We introduce Interpolation Consistency Training (ICT), a simple and computation efficient algorithm for training Deep Neural Networks in the semi-supervised learning paradigm.

505, TITLE: Sharing Experience in Multitask Reinforcement Learning

<https://www.ijcai.org/proceedings/2019/505>

AUTHORS: Tung-Long Vuong, Do-Van Nguyen, Tai-Long Nguyen, Cong-Minh Bui, Hai-Dang Kieu, Viet-Cuong Ta, Quoc-Long Tran, Thanh-Ha Le

HIGHLIGHT: In this paper, we propose a Sharing Experience Framework (SEF) for simultaneously training of multiple tasks.

506, TITLE: Planning with Expectation Models

<https://www.ijcai.org/proceedings/2019/506>

AUTHORS: Yi Wan, Muhammad Zaheer, Adam White, Martha White, Richard S. Sutton

HIGHLIGHT: In this paper, we propose a sound way of using approximate expectation models for MBRL.

507, TITLE: Recurrent Existence Determination Through Policy Optimization

<https://www.ijcai.org/proceedings/2019/507>

AUTHORS: Baoxiang Wang

HIGHLIGHT: Our algorithm employs a novel  $\text{SkS}$ -maximum aggregation layer and a new reward mechanism to address the issue of delayed rewards, which would have caused the instability of the training process.

508, TITLE: Boundary Perception Guidance: A Scribble-Supervised Semantic Segmentation Approach

<https://www.ijcai.org/proceedings/2019/508>

AUTHORS: Bin Wang, Guojun Qi, Sheng Tang, Tianzhu Zhang, Yunchao Wei, Linghui Li, Yongdong Zhang  
HIGHLIGHT: To fully explore the limited pixel-level annotations from scribbles, we present a novel Boundary Perception Guidance (BPG) approach, which consists of two basic components, i.e., prediction refinement and boundary regression.

509, TITLE: Attributed Graph Clustering: A Deep Attentional Embedding Approach

<https://www.ijcai.org/proceedings/2019/509>

AUTHORS: Chun Wang, Shirui Pan, Ruiqi Hu, Guodong Long, Jing Jiang, Chengqi Zhang  
HIGHLIGHT: In this paper, we propose a goal-directed deep learning approach, Deep Attentional Embedded Graph Clustering (DAEGC for short).

510, TITLE: Spectral Perturbation Meets Incomplete Multi-view Data

<https://www.ijcai.org/proceedings/2019/510>

AUTHORS: Hao Wang, Linlin Zong, Bing Liu, Yan Yang, Wei Zhou  
HIGHLIGHT: In this work, we show a strong link between perturbation risk bounds and incomplete multi-view clustering.

511, TITLE: Measuring Structural Similarities in Finite MDPs

<https://www.ijcai.org/proceedings/2019/511>

AUTHORS: Hao Wang, Shaokang Dong, Ling Shao  
HIGHLIGHT: In this paper, we investigate the structural similarities within a finite Markov decision process (MDP).

512, TITLE: Discriminative and Correlative Partial Multi-Label Learning

<https://www.ijcai.org/proceedings/2019/512>

AUTHORS: Haobo Wang, Weiwei Liu, Yang Zhao, Chen Zhang, Tianlei Hu, Gang Chen  
HIGHLIGHT: To fill this gap, a two-stage Discriminative and Correlative partial Multi-label Learning (DRAMA) algorithm is presented in this work.

513, TITLE: DMRAN: A Hierarchical Fine-Grained Attention-Based Network for Recommendation

<https://www.ijcai.org/proceedings/2019/513>

AUTHORS: Hui Zhao Wang, Guanfeng Liu, An Liu, Zhixu Li, Kai Zheng  
HIGHLIGHT: In this paper, we propose a Double Most Relevant Attention Network (DMRAN) that contains two layers, i.e., Item level Attention and Feature Level Self-attention, which are to pick out the most relevant items from the sequence of user's historical behaviors, and extract the most relevant aspects of relevant items, respectively.

514, TITLE: CLVSA: A Convolutional LSTM Based Variational Sequence-to-Sequence Model with Attention for Predicting Trends of Financial Markets

<https://www.ijcai.org/proceedings/2019/514>

AUTHORS: Jia Wang, Tong Sun, Benyuan Liu, Yu Cao, Hongwei Zhu  
HIGHLIGHT: Inspired by stochastic recurrent models that successfully capture variability observed in natural sequential data such as speech and video, we propose CLVSA, a hybrid model that consists of stochastic recurrent networks, the sequence-to-sequence architecture, the self- and inter-attention mechanism, and convolutional LSTM units to capture variationally underlying features in raw financial trading data.

515, TITLE: Classification with Label Distribution Learning

<https://www.ijcai.org/proceedings/2019/515>

AUTHORS: Jing Wang, Xin Geng  
HIGHLIGHT: To solve the inconsistency, we propose in this paper a new Label Distribution Learning algorithm for Classification (LDL4C).

516, TITLE: Attributed Subspace Clustering

<https://www.ijcai.org/proceedings/2019/516>

AUTHORS: Jing Wang, Linchuan Xu, Feng Tian, Atsushi Suzuki, Changqing Zhang, Kenji Yamanishi  
HIGHLIGHT: Therefore, we propose an innovative model called attributed subspace clustering (ASC).

517, TITLE: Deep Cascade Generation on Point Sets

<https://www.ijcai.org/proceedings/2019/517>

AUTHORS: Kaiqi Wang, Ke Chen, Kui Jia  
HIGHLIGHT: For benefiting from its simple structure yet utilizing rich neighborhood information across points, this paper proposes a two-stage cascade model on point sets.

518, TITLE: Discrete Binary Coding based Label Distribution Learning  
<https://www.ijcai.org/proceedings/2019/518>  
AUTHORS: Ke Wang, Xin Geng  
HIGHLIGHT: In this paper, we propose a novel LDL method to address this issue, termed Discrete Binary Coding based Label Distribution Learning (DBC-LDL).

519, TITLE: Differentially Private Iterative Gradient Hard Thresholding for Sparse Learning  
<https://www.ijcai.org/proceedings/2019/519>  
AUTHORS: Lingxiao Wang, Quanquan Gu  
HIGHLIGHT: We propose a generic differentially private iterative gradient hard thresholding algorithm with a linear convergence rate and strong utility guarantee.

520, TITLE: MUSICAL: Multi-Scale Image Contextual Attention Learning for Inpainting  
<https://www.ijcai.org/proceedings/2019/520>  
AUTHORS: Ning Wang, Jingyuan Li, Lefei Zhang, Bo Du  
HIGHLIGHT: To this end, in this study, we propose to use a multi-scale image contextual attention learning (MUSICAL) strategy that helps to flexibly handle richer background information while avoid to misuse of it.

521, TITLE: Partial Label Learning with Unlabeled Data  
<https://www.ijcai.org/proceedings/2019/521>  
AUTHORS: Qian-Wei Wang, Yu-Feng Li, Zhi-Hua Zhou  
HIGHLIGHT: In this paper, we propose the SSPL method to address this problem.

522, TITLE: Heterogeneous Graph Matching Networks for Unknown Malware Detection  
<https://www.ijcai.org/proceedings/2019/522>  
AUTHORS: Shen Wang, Zhengzhang Chen, Xiao Yu, Ding Li, Jingchao Ni, Lu-An Tang, Jiaping Gui, Zhichun Li, Haifeng Chen, Philip S. Yu  
HIGHLIGHT: To address the limitations of existing techniques, we propose MatchGNet, a heterogeneous Graph Matching Network model to learn the graph representation and similarity metric simultaneously based on the invariant graph modeling of the program's execution behaviors.

523, TITLE: Modeling Multi-Purpose Sessions for Next-Item Recommendations via Mixture-Channel Purpose Routing Networks  
<https://www.ijcai.org/proceedings/2019/523>  
AUTHORS: Shoujin Wang, Liang Hu, Yan Wang, Quan Z. Sheng, Mehmet Orgun, Longbing Cao  
HIGHLIGHT: Therefore, we propose a mixture-channel model to accommodate the multi-purpose item subsets for more precisely representing a session.

524, TITLE: Multi-view Clustering via Late Fusion Alignment Maximization  
<https://www.ijcai.org/proceedings/2019/524>  
AUTHORS: Siwei Wang, Xinwang Liu, En Zhu, Chang Tang, Jiyuan Liu, Jingtao Hu, Jingyuan Xia, Jianping Yin  
HIGHLIGHT: In this paper, we theoretically uncover the connection between existing k-means clustering and the alignment between base partitions and consensus partition.

525, TITLE: COP: Customized Deep Model Compression via Regularized Correlation-Based Filter-Level Pruning  
<https://www.ijcai.org/proceedings/2019/525>  
AUTHORS: Wenxiao Wang, Cong Fu, Jishun Guo, Deng Cai, Xiaofei He  
HIGHLIGHT: To address the above problems, we develop a novel algorithm named as COP (correlation-based pruning), which can detect the redundant filters efficiently.

526, TITLE: Position Focused Attention Network for Image-Text Matching  
<https://www.ijcai.org/proceedings/2019/526>  
AUTHORS: Yaxiong Wang, Hao Yang, Xueming Qian, Lin Ma, Jing Lu, Biao Li, Xin Fan  
HIGHLIGHT: In this paper, we propose a novel position focused attention network (PFAN) to investigate the relation between the visual and the textual views.

527, TITLE: Tag2Gauss: Learning Tag Representations via Gaussian Distribution in Tagged Networks  
<https://www.ijcai.org/proceedings/2019/527>  
AUTHORS: Yun Wang, Lun Du, Guojie Song, Xiaojun Ma, Lichen Jin, Wei Lin, Fei Sun  
HIGHLIGHT: In this paper, we propose a tag representation learning model which takes tag-related node interaction into consideration, named Tag2Gauss.

- 528, TITLE: Weak Supervision Enhanced Generative Network for Question Generation  
<https://www.ijcai.org/proceedings/2019/528>  
AUTHORS: Yutong Wang, Jiyuan Zheng, Qijiong Liu, Zhou Zhao, Jun Xiao, Yueting Zhuang  
HIGHLIGHT: To address this problem, we propose the Weakly Supervision Enhanced Generative Network (WeGen) which automatically discovers relevant features of the passage given the answer span in a weakly supervised manner to improve the quality of generated questions.
- 529, TITLE: Unified Embedding Model over Heterogeneous Information Network for Personalized Recommendation  
<https://www.ijcai.org/proceedings/2019/529>  
AUTHORS: Zekai Wang, Hongzhi Liu, Yingpeng Du, Zhonghai Wu, Xing Zhang  
HIGHLIGHT: To address these problems, we propose a HIN based unified embedding model for recommendation, called HueRec.
- 530, TITLE: Interactive Reinforcement Learning with Dynamic Reuse of Prior Knowledge from Human and Agent Demonstrations  
<https://www.ijcai.org/proceedings/2019/530>  
AUTHORS: Zhaodong Wang, Matthew E. Taylor  
HIGHLIGHT: This paper introduces the Dynamic Reuse of Prior (DRoP) algorithm, which combines the offline knowledge (demonstrations recorded before learning) with online confidence-based performance analysis.
- 531, TITLE: Hierarchical Diffusion Attention Network  
<https://www.ijcai.org/proceedings/2019/531>  
AUTHORS: Zhitao Wang, Wenjie Li  
HIGHLIGHT: In this paper, we propose a hierarchical diffusion attention network (HiDAN), which adopts a non-sequential framework and two-level attention mechanisms, for diffusion prediction.
- 532, TITLE: Learning Multi-Objective Rewards and User Utility Function in Contextual Bandits for Personalized Ranking  
<https://www.ijcai.org/proceedings/2019/532>  
AUTHORS: Nirandika Wanigasekara, Yuxuan Liang, Siong Thye Goh, Ye Liu, Joseph Jay Williams, David S. Rosenblum  
HIGHLIGHT: To solve the MOCR-B problem, we present a novel algorithm, named Multi-Objective Utility-Upper Confidence Bound (MOU-UCB).
- 533, TITLE: Learning for Tail Label Data: A Label-Specific Feature Approach  
<https://www.ijcai.org/proceedings/2019/533>  
AUTHORS: Tong Wei, Wei-Wei Tu, Yu-Feng Li  
HIGHLIGHT: In this paper, we propose a novel method for the tail label learning problem.
- 534, TITLE: Bayesian Uncertainty Matching for Unsupervised Domain Adaptation  
<https://www.ijcai.org/proceedings/2019/534>  
AUTHORS: Jun Wen, Nenggan Zheng, Junsong Yuan, Zhefeng Gong, Changyou Chen  
HIGHLIGHT: To alleviate this issue, we propose an approximate joint distribution matching scheme by exploiting prediction uncertainty.
- 535, TITLE: RobustTrend: A Huber Loss with a Combined First and Second Order Difference Regularization for Time Series Trend Filtering  
<https://www.ijcai.org/proceedings/2019/535>  
AUTHORS: Qingsong Wen, Jingkun Gao, Xiaomin Song, Liang Sun, Jian Tan  
HIGHLIGHT: To deal with these challenges, we propose a robust trend filtering algorithm based on robust statistics and sparse learning.
- 536, TITLE: Neural News Recommendation with Attentive Multi-View Learning  
<https://www.ijcai.org/proceedings/2019/536>  
AUTHORS: Chuhan Wu, Fangzhao Wu, Mingxiao An, Jianqiang Huang, Yongfeng Huang, Xing Xie  
HIGHLIGHT: In this paper we propose a neural news recommendation approach which can learn informative representations of users and news by exploiting different kinds of news information.
- 537, TITLE: PD-GAN: Adversarial Learning for Personalized Diversity-Promoting Recommendation  
<https://www.ijcai.org/proceedings/2019/537>  
AUTHORS: Qiong Wu, Yong Liu, Chunyan Miao, Binqiang Zhao, Yin Zhao, Lu Guan

**HIGHLIGHT:** This paper proposes Personalized Diversity-promoting GAN (PD-GAN), a novel recommendation model to generate diverse, yet relevant recommendations.

538, **TITLE:** Feature Evolution Based Multi-Task Learning for Collaborative Filtering with Social Trust

<https://www.ijcai.org/proceedings/2019/538>

**AUTHORS:** Qitian Wu, Lei Jiang, Xiaofeng Gao, Xiaochun Yang, Guihai Chen

**HIGHLIGHT:** In this paper, we propose TrustEV and take the view of multi-task learning to unite collaborative filtering for recommendation and network embedding for user trust.

539, **TITLE:** Multi-View Multi-Label Learning with View-Specific Information Extraction

<https://www.ijcai.org/proceedings/2019/539>

**AUTHORS:** Xuan Wu, Qing-Guo Chen, Yao Hu, Dengbao Wang, Xiaodong Chang, Xiaobo Wang, Min-Ling Zhang

**HIGHLIGHT:** In this paper, a novel multi-view multi-label learning approach named SIMM is proposed which leverages shared subspace exploitation and view-specific information extraction.

540, **TITLE:** Trend-Aware Tensor Factorization for Job Skill Demand Analysis

<https://www.ijcai.org/proceedings/2019/540>

**AUTHORS:** Xunxian Wu, Tong Xu, Hengshu Zhu, Le Zhang, Enhong Chen, Hui Xiong

**HIGHLIGHT:** To address these challenges, in this paper, we propose a trend-aware approach for fine-grained skill demand analysis.

541, **TITLE:** Graph Convolutional Networks on User Mobility Heterogeneous Graphs for Social Relationship Inference

<https://www.ijcai.org/proceedings/2019/541>

**AUTHORS:** Yongji Wu, Defu Lian, Shuwei Jin, Enhong Chen

**HIGHLIGHT:** We propose a novel model that utilizes Graph Convolutional Networks (GCNs) to learn user embeddings on the User Mobility Heterogeneous Graph in an unsupervised manner.

542, **TITLE:** BPAM: Recommendation Based on BP Neural Network with Attention Mechanism

<https://www.ijcai.org/proceedings/2019/542>

**AUTHORS:** Wu-Dong Xi, Ling Huang, Chang-Dong Wang, Yin-Yu Zheng, Jianhuang Lai

**HIGHLIGHT:** To tackle these problems, we propose a novel recommendation algorithm based on Back Propagation (BP) neural network with Attention Mechanism (BPAM).

543, **TITLE:** Incremental Few-Shot Learning for Pedestrian Attribute Recognition

<https://www.ijcai.org/proceedings/2019/543>

**AUTHORS:** Liuyu Xiang, Xiaoming Jin, Guiguang Ding, Jungong Han, Leida Li

**HIGHLIGHT:** In this work, we present a meta learning based method to address this issue.

544, **TITLE:** Reparameterizable Subset Sampling via Continuous Relaxations

<https://www.ijcai.org/proceedings/2019/544>

**AUTHORS:** Sang Michael Xie, Stefano Ermon

**HIGHLIGHT:** We use this approach to sample subsets of features in an instance-wise feature selection task for model interpretability, subsets of neighbors to implement a deep stochastic k-nearest neighbors model, and sub-sequences of neighbors to implement parametric t-SNE by directly comparing the identities of local neighbors.

545, **TITLE:** CFM: Convolutional Factorization Machines for Context-Aware Recommendation

<https://www.ijcai.org/proceedings/2019/545>

**AUTHORS:** Xin Xin, Bo Chen, Xiangnan He, Dong Wang, Yue Ding, Joemon Jose

**HIGHLIGHT:** In this paper, we propose Convolutional Factorization Machine (CFM) to address above limitations.

546, **TITLE:** Adversarial Incomplete Multi-view Clustering

<https://www.ijcai.org/proceedings/2019/546>

**AUTHORS:** Cai Xu, Ziyu Guan, Wei Zhao, Hongchang Wu, Yunfei Niu, Beilei Ling

**HIGHLIGHT:** To eliminate all these drawbacks, in this work we present an Adversarial Incomplete Multi-view Clustering (AIMC) method.

547, **TITLE:** Graph Contextualized Self-Attention Network for Session-based Recommendation

<https://www.ijcai.org/proceedings/2019/547>

**AUTHORS:** Chengfeng Xu, Pengpeng Zhao, Yanchi Liu, Victor S. Sheng, Jiajie Xu, Fuzhen Zhuang, Junhua Fang, Xiaofang Zhou

- HIGHLIGHT:** In this paper, we propose a graph contextualized self-attention model (GC-SAN), which utilizes both graph neural network and self-attention mechanism, for session-based recommendation.
- 548, **TITLE:** Spatio-Temporal Attentive RNN for Node Classification in Temporal Attributed Graphs  
<https://www.ijcai.org/proceedings/2019/548>  
**AUTHORS:** Dongkuan Xu, Wei Cheng, Dongsheng Luo, Xiao Liu, Xiang Zhang  
**HIGHLIGHT:** In this paper, we propose STAR, a spatio-temporal attentive recurrent network model, to deal with the above challenges.
- 549, **TITLE:** Learning a Generative Model for Fusing Infrared and Visible Images via Conditional Generative Adversarial Network with Dual Discriminators  
<https://www.ijcai.org/proceedings/2019/549>  
**AUTHORS:** Han Xu, Pengwei Liang, Wei Yu, Junjun Jiang, Jiayi Ma  
**HIGHLIGHT:** In this paper, we propose a new end-to-end model, called dual-discriminator conditional generative adversarial network (DDcGAN), for fusing infrared and visible images of different resolutions.
- 550, **TITLE:** Topology Attack and Defense for Graph Neural Networks: An Optimization Perspective  
<https://www.ijcai.org/proceedings/2019/550>  
**AUTHORS:** Kaidi Xu, Hongge Chen, Sijia Liu, Pin-Yu Chen, Tsui-Wei Weng, Mingyi Hong, Xue Lin  
**HIGHLIGHT:** Moreover, leveraging our gradient-based attack, we propose the first optimization-based adversarial training for GNNs.
- 551, **TITLE:** MR-GNN: Multi-Resolution and Dual Graph Neural Network for Predicting Structured Entity Interactions  
<https://www.ijcai.org/proceedings/2019/551>  
**AUTHORS:** Nuo Xu, Pinghui Wang, Long Chen, Jing Tao, Junzhou Zhao  
**HIGHLIGHT:** To resolve these problems, we present MR-GNN, an end-to-end graph neural network with the following features: i) it uses a multi-resolution based architecture to extract node features from different neighborhoods of each node, and, ii) it uses dual graph-state long short-term memory networks (LSTMs) to summarize local features of each graph and extracts the interaction features between pairwise graphs.
- 552, **TITLE:** Commit Message Generation for Source Code Changes  
<https://www.ijcai.org/proceedings/2019/552>  
**AUTHORS:** Shengbin Xu, Yuan Yao, Feng Xu, Tianxiao Gu, Hanghang Tong, Jian Lu  
**HIGHLIGHT:** In this paper, we propose CoDiSum to address the above two limitations.
- 553, **TITLE:** Latent Semantics Encoding for Label Distribution Learning  
<https://www.ijcai.org/proceedings/2019/553>  
**AUTHORS:** Suping Xu, Lin Shang, Furao Shen  
**HIGHLIGHT:** In this paper, we propose a novel algorithm, i.e., Latent Semantics Encoding for Label Distribution Learning (LSE-LDL), which learns the label distribution and implements feature selection simultaneously under the guidance of latent semantics.
- 554, **TITLE:** Learning Image-Specific Attributes by Hyperbolic Neighborhood Graph Propagation  
<https://www.ijcai.org/proceedings/2019/554>  
**AUTHORS:** Xiaofeng Xu, Ivor W. Tsang, Xiaofeng Cao, Ruiheng Zhang, Chuancai Liu  
**HIGHLIGHT:** In this paper, we propose to learn image-specific attributes by graph-based attribute propagation.
- 555, **TITLE:** Zero-shot Metric Learning  
<https://www.ijcai.org/proceedings/2019/555>  
**AUTHORS:** Xinyi Xu, Huanhuan Cao, Yanhua Yang, Erkun Yang, Cheng Deng  
**HIGHLIGHT:** In this work, we tackle the zero-shot metric learning problem and propose a novel method abbreviated as ZSML, with the purpose to learn a distance metric that measures the similarity of unseen categories (even unseen datasets).
- 556, **TITLE:** On the Convergence of (Stochastic) Gradient Descent with Extrapolation for Non-Convex Minimization  
<https://www.ijcai.org/proceedings/2019/556>  
**AUTHORS:** Yi Xu, Zhuoning Yuan, Sen Yang, Rong Jin, Tianbao Yang  
**HIGHLIGHT:** In this paper, we analyze gradient descent and stochastic gradient descent with extrapolation for finding an approximate first-order stationary point in smooth non-convex optimization problems.
- 557, **TITLE:** Transfer of Temporal Logic Formulas in Reinforcement Learning



<https://www.ijcai.org/proceedings/2019/557>

AUTHORS: Zhe Xu, Ufuk Topcu

HIGHLIGHT: We study the transfer of knowledge between tasks in which the timing of the events matters.

558, TITLE: Deep Spectral Kernel Learning

<https://www.ijcai.org/proceedings/2019/558>

AUTHORS: Hui Xue, Zheng-Fan Wu, Wei-Xiang Sun

HIGHLIGHT: In this paper, we propose a novel deep spectral kernel network (DSKN) to naturally integrate non-stationary and non-monotonic spectral kernels into elegant deep architectures in an interpretable way, which can be further generalized to cover most kernels.

559, TITLE: Deep Correlated Predictive Subspace Learning for Incomplete Multi-View Semi-Supervised Classification

<https://www.ijcai.org/proceedings/2019/559>

AUTHORS: Zhe Xue, Junping Du, Dawei Du, Wenqi Ren, Siwei Lyu

HIGHLIGHT: To address this problem, we propose a Deep Correlated Predictive Subspace Learning (DCPSL) method for incomplete multi-view semi-supervised classification.

560, TITLE: Multi-scale Information Diffusion Prediction with Reinforced Recurrent Networks

<https://www.ijcai.org/proceedings/2019/560>

AUTHORS: Cheng Yang, Jian Tang, Maosong Sun, Ganqu Cui, Zhiyuan Liu

HIGHLIGHT: In this paper, we propose a novel multi-scale diffusion prediction model based on reinforcement learning (RL).

561, TITLE: Learning Strictly Orthogonal p-Order Nonnegative Laplacian Embedding via Smoothed Iterative Reweighted Method

<https://www.ijcai.org/proceedings/2019/561>

AUTHORS: Haoxuan Yang, Kai Liu, Hua Wang, Feiping Nie

HIGHLIGHT: In this work, we study LE that uses the p-th order of the L2-norm distances and satisfies both orthogonal and nonnegative constraints.

562, TITLE: Low-Bit Quantization for Attributed Network Representation Learning

<https://www.ijcai.org/proceedings/2019/562>

AUTHORS: Hong Yang, Shirui Pan, Ling Chen, Chuan Zhou, Peng Zhang

HIGHLIGHT: To this end, we present a new Low-Bit Quantization for Attributed Network Representation Learning model (LQANR for short) that can learn compact node representations with low bitwidth values while preserving high representation accuracy.

563, TITLE: Topology Optimization based Graph Convolutional Network

<https://www.ijcai.org/proceedings/2019/563>

AUTHORS: Liang Yang, Zesheng Kang, Xiaochun Cao, Di Jin, Bo Yang, Yuanfang Guo

HIGHLIGHT: In this paper, we propose a novel Topology Optimization based Graph Convolutional Networks (TO-GCN) to fully utilize the potential information by jointly refining the network topology and learning the parameters of the FCN.

564, TITLE: Dual Self-Paced Graph Convolutional Network: Towards Reducing Attribute Distortions Induced by Topology

<https://www.ijcai.org/proceedings/2019/564>

AUTHORS: Liang Yang, Zhiyang Chen, Junhua Gu, Yuanfang Guo

HIGHLIGHT: To reduce the distortions induced by the topology while exploit more potentials of the attribute information, Dual Self-Paced Graph Convolutional Network (DSP-GCN) is proposed in this paper.

565, TITLE: Masked Graph Convolutional Network

<https://www.ijcai.org/proceedings/2019/565>

AUTHORS: Liang Yang, Fan Wu, Yingkui Wang, Junhua Gu, Yuanfang Guo

HIGHLIGHT: In this paper, they are interpreted from the perspective of propagation, and accordingly categorized into symmetric and asymmetric propagation based methods.

566, TITLE: Deep Multi-Task Learning with Adversarial-and-Cooperative Nets

<https://www.ijcai.org/proceedings/2019/566>

AUTHORS: Pei Yang, Qi Tan, Jieping Ye, Hanghang Tong, Jingrui He

HIGHLIGHT: In this paper, we propose a deep multi-Task learning model based on Adversarial-and-Cooperative nets (TACO).

- 567, TITLE: Legal Judgment Prediction via Multi-Perspective Bi-Feedback Network  
<https://www.ijcai.org/proceedings/2019/567>  
AUTHORS: Wenmian Yang, Weijia Jia, Xiaojie Zhou, Yutao Luo  
HIGHLIGHT: In this paper, we propose a Multi-Perspective Bi-Feedback Network with the Word Collocation Attention mechanism based on the topology structure among subtasks.
- 568, TITLE: Comprehensive Semi-Supervised Multi-Modal Learning  
<https://www.ijcai.org/proceedings/2019/568>  
AUTHORS: Yang Yang, Ke-Tao Wang, De-Chuan Zhan, Hui Xiong, Yuan Jiang  
HIGHLIGHT: To this end, in this paper, we propose a novel Comprehensive Multi-Modal Learning (CMML) framework, which can strike a balance between the consistency and divergency modalities by considering the insufficiency in one unified framework.
- 569, TITLE: SPAGAN: Shortest Path Graph Attention Network  
<https://www.ijcai.org/proceedings/2019/569>  
AUTHORS: Yiding Yang, Xinchao Wang, Mingli Song, Junsong Yuan, Dacheng Tao  
HIGHLIGHT: In this paper, we propose a novel GCN model, which we term as Shortest Path Graph Attention Network (SPAGAN).
- 570, TITLE: On the Estimation of Treatment Effect with Text Covariates  
<https://www.ijcai.org/proceedings/2019/570>  
AUTHORS: Liuyi Yao, Sheng Li, Yaliang Li, Hongfei Xue, Jing Gao, Aidong Zhang  
HIGHLIGHT: To address this challenge, we propose a conditional treatment-adversarial learning based matching method (CTAM).
- 571, TITLE: Privacy-Preserving Stacking with Application to Cross-organizational Diabetes Prediction  
<https://www.ijcai.org/proceedings/2019/571>  
AUTHORS: Quanming Yao, Xiawei Guo, James Kwok, Weiwei Tu, Yuqiang Chen, Wenyuan Dai, Qiang Yang  
HIGHLIGHT: In this paper, motivated by the success of improving predicting performance by ensemble learning, we propose to enhance privacy-preserving logistic regression by stacking.
- 572, TITLE: Multi-View Multiple Clustering  
<https://www.ijcai.org/proceedings/2019/572>  
AUTHORS: Shixin Yao, Guoxian Yu, Jun Wang, Carlotta Domeniconi, Xiangliang Zhang  
HIGHLIGHT: To this end, we propose a novel multi-view multiple clustering (MVMC) algorithm.
- 573, TITLE: Amalgamating Filtered Knowledge: Learning Task-customized Student from Multi-task Teachers  
<https://www.ijcai.org/proceedings/2019/573>  
AUTHORS: Jingwen Ye, Xinchao Wang, Yixin Ji, Kairi Ou, Mingli Song  
HIGHLIGHT: In this paper, we treat such pre-trained networks as teachers and explore how to learn a target student network for customized tasks, using multiple teachers that handle different tasks.
- 574, TITLE: A Vectorized Relational Graph Convolutional Network for Multi-Relational Network Alignment  
<https://www.ijcai.org/proceedings/2019/574>  
AUTHORS: Rui Ye, Xin Li, Yujie Fang, Hongyu Zang, Mingzhong Wang  
HIGHLIGHT: In comparison with existing GCNs which cannot fully utilize multi-relation information, we propose a vectorized relational graph convolutional network (VR-GCN) to learn the embeddings of both graph entities and relations simultaneously for multi-relational networks.
- 575, TITLE: Distributed Collaborative Feature Selection Based on Intermediate Representation  
<https://www.ijcai.org/proceedings/2019/575>  
AUTHORS: Xiucan Ye, Hongmin Li, Akira Imakura, Tetsuya Sakurai  
HIGHLIGHT: In this paper, we propose a novel distributed method which allows collaborative feature selection for multiple parties without revealing their original data.
- 576, TITLE: Out-of-sample Node Representation Learning for Heterogeneous Graph in Real-time Android Malware Detection  
<https://www.ijcai.org/proceedings/2019/576>  
AUTHORS: Yanfang Ye, Shifu Hou, Lingwei Chen, Jingwei Lei, Wenqiang Wan, Jiabin Wang, Qi Xiong, Fudong Shao  
HIGHLIGHT: To model different types of entities (i.e., app, API, device, signature, affiliation) and rich relations among them, we present a structured heterogeneous graph (HG) for modeling.

- 577, TITLE: Neural Network based Continuous Conditional Random Field for Fine-grained Crime Prediction  
<https://www.ijcai.org/proceedings/2019/577>  
AUTHORS: Fei Yi, Zhiwen Yu, Fuzhen Zhuang, Bin Guo  
HIGHLIGHT: To deal with it, in this paper, we propose a Neural Network based CCRF (NN-CCRF) model that formulates CCRF into an end-to-end neural network framework, which could reduce the complexity in model training and improve the overall performance.
- 578, TITLE: BN-invariant Sharpness Regularizes the Training Model to Better Generalization  
<https://www.ijcai.org/proceedings/2019/578>  
AUTHORS: Mingyang Yi, Huishuai Zhang, Wei Chen, Zhi-Ming Ma, Tie-Yan Liu  
HIGHLIGHT: Our algorithm achieves considerably better performance than vanilla SGD over various experiment settings.
- 579, TITLE: Geometric Understanding for Unsupervised Subspace Learning  
<https://www.ijcai.org/proceedings/2019/579>  
AUTHORS: Shihui Ying, Lipeng Cai, Changzhou He, Yaxin Peng  
HIGHLIGHT: In this paper, we address the unsupervised subspace learning from a geometric viewpoint.
- 580, TITLE: Belief Propagation Network for Hard Inductive Semi-Supervised Learning  
<https://www.ijcai.org/proceedings/2019/580>  
AUTHORS: Jaemin Yoo, Hyunsik Jeon, U Kang  
HIGHLIGHT: In this work, we propose belief propagation networks (BPN), a novel approach to train a deep neural network in a hard inductive setting, where the test data are given without neighborhood information.
- 581, TITLE: Metatrace Actor-Critic: Online Step-Size Tuning by Meta-gradient Descent for Reinforcement Learning Control  
<https://www.ijcai.org/proceedings/2019/581>  
AUTHORS: Kenny Young, Baoxiang Wang, Matthew E. Taylor  
HIGHLIGHT: To address these issues, we propose Metatrace, a meta-gradient descent based algorithm to tune the step-size online.
- 582, TITLE: Semi-supervised Three-dimensional Reconstruction Framework with GAN  
<https://www.ijcai.org/proceedings/2019/582>  
AUTHORS: Chong Yu  
HIGHLIGHT: We propose a novel semi-supervised 3D reconstruction framework, namely SS-3D-GAN, which can iteratively improve any raw 3D reconstruction models by training the GAN models to converge.
- 583, TITLE: Interpreting and Evaluating Neural Network Robustness  
<https://www.ijcai.org/proceedings/2019/583>  
AUTHORS: Fuxun Yu, Zhuwei Qin, Chenchen Liu, Liang Zhao, Yanzhi Wang, Xiang Chen  
HIGHLIGHT: This work aims to qualitatively interpret the adversarial attack and defense mechanisms through loss visualization, and establish a quantitative metric to evaluate the model's intrinsic robustness.
- 584, TITLE: VAEGAN: A Collaborative Filtering Framework based on Adversarial Variational Autoencoders  
<https://www.ijcai.org/proceedings/2019/584>  
AUTHORS: Xianwen Yu, Xiaoning Zhang, Yang Cao, Min Xia  
HIGHLIGHT: In this paper, a novel framework named VAEGAN is proposed to address the above issue.
- 585, TITLE: Adaptive User Modeling with Long and Short-Term Preferences for Personalized Recommendation  
<https://www.ijcai.org/proceedings/2019/585>  
AUTHORS: Zeping Yu, Jianxun Lian, Ahmad Mahmood, Gongshen Liu, Xing Xie  
HIGHLIGHT: In this paper, we improve the traditional RNN structure by proposing a time-aware controller and a content-aware controller, so that contextual information can be well considered to control the state transition.
- 586, TITLE: Progressive Transfer Learning for Person Re-identification  
<https://www.ijcai.org/proceedings/2019/586>  
AUTHORS: Zhengxu Yu, Zhongming Jin, Long Wei, Jishun Guo, Jianqiang Huang, Deng Cai, Xiaofei He, Xian-Sheng Hua  
HIGHLIGHT: In this paper, we study model fine-tuning from the perspective of the aggregation and utilization of the global information of the dataset when using mini-batch training.

587, TITLE: DARec: Deep Domain Adaptation for Cross-Domain Recommendation via Transferring Rating Patterns  
<https://www.ijcai.org/proceedings/2019/587>  
AUTHORS: Feng Yuan, Lina Yao, Boualem Benatallah  
HIGHLIGHT: In this work, inspired by the concept of domain adaptation, we proposed a deep domain adaptation model (DARec) that is capable of extracting and transferring patterns from rating matrices only without relying on any auxiliary information.

588, TITLE: KCNN: Kernel-wise Quantization to Remarkably Decrease Multiplications in Convolutional Neural Network  
<https://www.ijcai.org/proceedings/2019/588>  
AUTHORS: Linghua Zeng, Zhangcheng Wang, Xinmei Tian  
HIGHLIGHT: In this paper, we quantize the floating-point weights in each kernel separately to multiple bit planes to remarkably decrease multiplications.

589, TITLE: Experience Replay Optimization  
<https://www.ijcai.org/proceedings/2019/589>  
AUTHORS: Daochen Zha, Kwei-Herng Lai, Kaixiong Zhou, Xia Hu  
HIGHLIGHT: In this work, we consider learning a replay policy to optimize the cumulative reward.

590, TITLE: Positive and Unlabeled Learning with Label Disambiguation  
<https://www.ijcai.org/proceedings/2019/590>  
AUTHORS: Chuang Zhang, Dexin Ren, Tongliang Liu, Jian Yang, Chen Gong  
HIGHLIGHT: To solve this problem, this paper proposes a novel algorithm dubbed as "Positive and Unlabeled learning with Label Disambiguation" (PULD).

591, TITLE: Generalized Majorization-Minimization for Non-Convex Optimization  
<https://www.ijcai.org/proceedings/2019/591>  
AUTHORS: Hu Zhang, Pan Zhou, Yi Yang, Jiashi Feng  
HIGHLIGHT: In this paper, we propose a novel MM surrogate function from strictly upper bounding the objective to bounding the objective in expectation.

592, TITLE: STAR-GCN: Stacked and Reconstructed Graph Convolutional Networks for Recommender Systems  
<https://www.ijcai.org/proceedings/2019/592>  
AUTHORS: Jiani Zhang, Xingjian Shi, Shenglin Zhao, Irwin King  
HIGHLIGHT: We propose a new STACKed and Reconstructed Graph Convolutional Networks (STAR-GCN) architecture to learn node representations for boosting the performance in recommender systems, especially in the cold start scenario.

593, TITLE: Light-Weight Hybrid Convolutional Network for Liver Tumor Segmentation  
<https://www.ijcai.org/proceedings/2019/593>  
AUTHORS: Jianpeng Zhang, Yutong Xie, Pingping Zhang, Hao Chen, Yong Xia, Chunhua Shen  
HIGHLIGHT: In this paper, we propose the light-weight hybrid convolutional network (LW-HCN) to segment the liver and its tumors in CT volumes.

594, TITLE: ProNE: Fast and Scalable Network Representation Learning  
<https://www.ijcai.org/proceedings/2019/594>  
AUTHORS: Jie Zhang, Yuxiao Dong, Yan Wang, Jie Tang, Ming Ding  
HIGHLIGHT: In this work, we present ProNE---a fast, scalable, and effective model, whose single-thread version is 10--400x faster than efficient network embedding benchmarks with 20 threads, including LINE, DeepWalk, node2vec, GraRep, and HOPE.

595, TITLE: Towards Robust ResNet: A Small Step but a Giant Leap  
<https://www.ijcai.org/proceedings/2019/595>  
AUTHORS: Jingfeng Zhang, Bo Han, Laura Wynter, Bryan Kian Hsiang Low, Mohan Kankanhalli  
HIGHLIGHT: This paper presents a simple yet principled approach to boosting the robustness of the residual network (ResNet) that is motivated by a dynamical systems perspective.

596, TITLE: High Dimensional Bayesian Optimization via Supervised Dimension Reduction  
<https://www.ijcai.org/proceedings/2019/596>  
AUTHORS: Miao Zhang, Huiqi Li, Steven Su  
HIGHLIGHT: This paper directly introduces a supervised dimension reduction method, Sliced Inverse Regression (SIR), to high dimensional Bayesian optimization, which could effectively learn the intrinsic sub-structure of objective function during the optimization.

- 597, TITLE: Efficient Non-parametric Bayesian Hawkes Processes  
<https://www.ijcai.org/proceedings/2019/597>  
AUTHORS: Rui Zhang, Christian Walder, Marian-Andrei RizoIU, Lexing Xie  
HIGHLIGHT: In this paper, we develop an efficient non-parametric Bayesian estimation of the kernel function of Hawkes processes.
- 598, TITLE: Inferring Substitutable Products with Deep Network Embedding  
<https://www.ijcai.org/proceedings/2019/598>  
AUTHORS: Shijie Zhang, Hongzhi Yin, Qinyong Wang, Tong Chen, Hongxu Chen, Quoc Viet Hung Nguyen  
HIGHLIGHT: In this paper, we propose a semisupervised deep embedding model, namely, Substitute Products Embedding Model (SPEM), which models the substitutable relationships between products by preserving the second-order proximity, negative first-order proximity and semantic similarity in a product co-purchasing graph based on user's purchasing behaviours.
- 599, TITLE: Quaternion Collaborative Filtering for Recommendation  
<https://www.ijcai.org/proceedings/2019/599>  
AUTHORS: Shuai Zhang, Lina Yao, Lucas Vinh Tran, Aston Zhang, Yi Tay  
HIGHLIGHT: This paper proposes Quaternion Collaborative Filtering (QCF), a novel representation learning method for recommendation.
- 600, TITLE: Feature-level Deeper Self-Attention Network for Sequential Recommendation  
<https://www.ijcai.org/proceedings/2019/600>  
AUTHORS: Tingting Zhang, Pengpeng Zhao, Yanchi Liu, Victor S. Sheng, Jiajie Xu, Deqing Wang, Guanfeng Liu, Xiaofang Zhou  
HIGHLIGHT: In this paper, we propose a novel method named Feature-level Deeper Self-Attention Network (FDSA) for sequential recommendation.
- 601, TITLE: Attributed Graph Clustering via Adaptive Graph Convolution  
<https://www.ijcai.org/proceedings/2019/601>  
AUTHORS: Xiaotong Zhang, Han Liu, Qimai Li, Xiao-Ming Wu  
HIGHLIGHT: In this paper, we propose an adaptive graph convolution method for attributed graph clustering that exploits high-order graph convolution to capture global cluster structure and adaptively selects the appropriate order for different graphs.
- 602, TITLE: InteractionNN: A Neural Network for Learning Hidden Features in Sparse Prediction  
<https://www.ijcai.org/proceedings/2019/602>  
AUTHORS: Xiaowang Zhang, Qiang Gao, Zhiyong Feng  
HIGHLIGHT: In this paper, we present a neural network (InteractionNN) for sparse predictive analysis where hidden features of sparse data can be learned by multilevel feature interaction.
- 603, TITLE: Multi-Group Encoder-Decoder Networks to Fuse Heterogeneous Data for Next-Day Air Quality Prediction  
<https://www.ijcai.org/proceedings/2019/603>  
AUTHORS: Yawen Zhang, Qin Lv, Duanfeng Gao, Si Shen, Robert Dick, Michael Hannigan, Qi Liu  
HIGHLIGHT: This paper tackles this problem through three key contributions: (1) we leverage multi-source data, especially high-frequency grid-based weather data, to model air pollutant dynamics at station-level; (2) we add convolution operators on grid weather data to capture the impacts of various weather parameters on air pollutant variations; and (3) we automatically group (cross-domain) features based on their correlations, and propose multi-group Encoder-Decoder networks (MGED-Net) to effectively fuse multiple feature groups for next-day air quality prediction.
- 604, TITLE: Taming the Noisy Gradient: Train Deep Neural Networks with Small Batch Sizes  
<https://www.ijcai.org/proceedings/2019/604>  
AUTHORS: Yikai Zhang, Hui Qu, Chao Chen, Dimitris Metaxas  
HIGHLIGHT: In this paper, we tackle this problem by proposing a new framework for training deep neural network with small batches/noisy gradient.
- 605, TITLE: Accelerated Inference Framework of Sparse Neural Network Based on Nested Bitmask Structure  
<https://www.ijcai.org/proceedings/2019/605>  
AUTHORS: Yipeng Zhang, Bo Du, Lefei Zhang, Rongchun Li, Yong Dou  
HIGHLIGHT: In this paper, we propose a novel encoding approach on a sparse neural network after pruning.
- 606, TITLE: DANE: Domain Adaptive Network Embedding  
<https://www.ijcai.org/proceedings/2019/606>

AUTHORS: Yizhou Zhang, Guojie Song, Lun Du, Shuwen Yang, Yilun Jin  
HIGHLIGHT: In this paper, we propose a novel Domain Adaptive Network Embedding framework, which applies graph convolutional network to learn transferable embeddings.

607, TITLE: ATTAIN: Attention-based Time-Aware LSTM Networks for Disease Progression Modeling  
<https://www.ijcai.org/proceedings/2019/607>  
AUTHORS: Yuan Zhang, Xi Yang, Julie Ivy, Min Chi  
HIGHLIGHT: To tackle these limitations, we propose an attention-based time-aware LSTM Networks (ATTAIN), to improve the interpretability of LSTM and to identify the critical previous events for current diagnosis by modeling the inherent time irregularity.

608, TITLE: Scalable Block-Diagonal Locality-Constrained Projective Dictionary Learning  
<https://www.ijcai.org/proceedings/2019/608>  
AUTHORS: Zhao Zhang, Weiming Jiang, Zheng Zhang, Sheng Li, Guangcan Liu, Jie Qin  
HIGHLIGHT: We propose a novel structured discriminative block-diagonal dictionary learning method, referred to as scalable Locality-Constrained Projective Dictionary Learning (LC-PDL), for efficient representation and classification.

609, TITLE: Open-Ended Long-Form Video Question Answering via Hierarchical Convolutional Self-Attention Networks  
<https://www.ijcai.org/proceedings/2019/609>  
AUTHORS: Zhu Zhang, Zhou Zhao, Zhijie Lin, Jingkuan Song, Xiaofei He  
HIGHLIGHT: To tackle these problems, we propose a fast hierarchical convolutional self-attention encoder-decoder network.

610, TITLE: Localizing Unseen Activities in Video via Image Query  
<https://www.ijcai.org/proceedings/2019/610>  
AUTHORS: Zhu Zhang, Zhou Zhao, Zhijie Lin, Jingkuan Song, Deng Cai  
HIGHLIGHT: Thus, we consider a new task to localize unseen activities in videos via image queries, named Image-Based Activity Localization.

611, TITLE: Multi-Prototype Networks for Unconstrained Set-based Face Recognition  
<https://www.ijcai.org/proceedings/2019/611>  
AUTHORS: Jian Zhao, Jianshu Li, Xiaoguang Tu, Fang Zhao, Yuan Xin, Junliang Xing, Hengzhu Liu, Shuicheng Yan, Jiashi Feng  
HIGHLIGHT: In this paper, we address the challenging unconstrained set-based face recognition problem where each subject face is instantiated by a set of media (images and videos) instead of a single image.

612, TITLE: GAN-EM: GAN Based EM Learning Framework  
<https://www.ijcai.org/proceedings/2019/612>  
AUTHORS: Wentian Zhao, Shaojie Wang, Zhihui Xie, Jing Shi, Chenliang Xu  
HIGHLIGHT: To overcome such limitation, we propose a GAN-based EM learning framework that can maximize the likelihood of images and estimate the latent variables.

613, TITLE: Large Scale Evolving Graphs with Burst Detection  
<https://www.ijcai.org/proceedings/2019/613>  
AUTHORS: Yifeng Zhao, Xiangwei Wang, Hongxia Yang, Le Song, Jie Tang  
HIGHLIGHT: Thus, in this paper, we design and implement a novel framework called BurstGraph which can capture both recurrent and consistent patterns, and especially unexpected bursty network changes.

614, TITLE: AddGraph: Anomaly Detection in Dynamic Graph Using Attention-based Temporal GCN  
<https://www.ijcai.org/proceedings/2019/614>  
AUTHORS: Li Zheng, Zhenpeng Li, Jian Li, Zhao Li, Jun Gao  
HIGHLIGHT: In this paper, we propose AddGraph, a general end-to-end anomalous edge detection framework using an extended temporal GCN (Graph Convolutional Network) with an attention model, which can capture both long-term patterns and the short-term patterns in dynamic graphs.

615, TITLE: Metadata-driven Task Relation Discovery for Multi-task Learning  
<https://www.ijcai.org/proceedings/2019/615>  
AUTHORS: Zimu Zheng, Yuqi Wang, Quanyu Dai, Huadi Zheng, Dan Wang  
HIGHLIGHT: In this paper, we, for the first time, introduce metadata into TRD for MTL and propose a novel Metadata Clustering method, which jointly uses historical samples and additional metadata to automatically exploit the true relatedness.

- 616, TITLE: BeatGAN: Anomalous Rhythm Detection using Adversarially Generated Time Series  
<https://www.ijcai.org/proceedings/2019/616>  
AUTHORS: Bin Zhou, Shenghua Liu, Bryan Hooi, Xueqi Cheng, Jing Ye  
HIGHLIGHT: Therefore, we propose BeatGAN, an unsupervised anomaly detection algorithm for time series data.
- 617, TITLE: Latent Distribution Preserving Deep Subspace Clustering  
<https://www.ijcai.org/proceedings/2019/617>  
AUTHORS: Lei Zhou, Xiao Bai, Dong Wang, Xianglong Liu, Jun Zhou, Edwin Hancock  
HIGHLIGHT: In this paper, we propose a novel deep subspace clustering method based on a latent distribution-preserving autoencoder, which introduces a distribution consistency loss to guide the learning of distribution-preserving latent representation, and consequently enables strong capacity of characterizing the real-world data for subspace clustering.
- 618, TITLE: Reinforcement Learning Experience Reuse with Policy Residual Representation  
<https://www.ijcai.org/proceedings/2019/618>  
AUTHORS: Wenji Zhou, Yang Yu, Yingfeng Chen, Kai Guan, Tangjie Lv, Changjie Fan, Zhi-Hua Zhou  
HIGHLIGHT: In this paper, we propose the policy residual representation (PRR) network, which can extract and store multiple levels of experience.
- 619, TITLE: Collaborative Metric Learning with Memory Network for Multi-Relational Recommender Systems  
<https://www.ijcai.org/proceedings/2019/619>  
AUTHORS: Xiao Zhou, Danyang Liu, Jianxun Lian, Xing Xie  
HIGHLIGHT: Based on the observation that the underlying spectrum of user preferences is reflected in various types of interactions with items and can be uncovered by latent relational learning in metric space, we propose a unified neural learning framework, named Multi-Relational Memory Network (MRMN).
- 620, TITLE: One-Shot Texture Retrieval with Global Context Metric  
<https://www.ijcai.org/proceedings/2019/620>  
AUTHORS: Kai Zhu, Wei Zhai, Zheng-Jun Zha, Yang Cao  
HIGHLIGHT: In this paper, we tackle one-shot texture retrieval: given an example of a new reference texture, detect and segment all the pixels of the same texture category within an arbitrary image.
- 621, TITLE: HDI-Forest: Highest Density Interval Regression Forest  
<https://www.ijcai.org/proceedings/2019/621>  
AUTHORS: Lin Zhu, Jiaying Lu, Yihong Chen  
HIGHLIGHT: In this paper, we propose Highest Density Interval Regression Forest (HDI-Forest), a novel quality-based PI estimation method that is instead based on Random Forest.
- 622, TITLE: Prediction of Mild Cognitive Impairment Conversion Using Auxiliary Information  
<https://www.ijcai.org/proceedings/2019/622>  
AUTHORS: Xiaofeng Zhu  
HIGHLIGHT: In this paper, we propose a new feature selection method to exploit the issue of High Dimension Low Sample Size (HDLSS) for the prediction of Mild Cognitive Impairment (MCI) conversion.
- 623, TITLE: Simultaneous Representation Learning and Clustering for Incomplete Multi-view Data  
<https://www.ijcai.org/proceedings/2019/623>  
AUTHORS: Wenzhang Zhuge, Chenping Hou, Xinwang Liu, Hong Tao, Dongyun Yi  
HIGHLIGHT: To address these issues, in this paper, we propose a Simultaneous Representation Learning and Clustering (SRLC) method.
- 624, TITLE: Persistence Bag-of-Words for Topological Data Analysis  
<https://www.ijcai.org/proceedings/2019/624>  
AUTHORS: Bartosz Zieliński, Michał Lipiński, Mateusz Juda, Matthias Zeppelzauer, Paweł Dątko  
HIGHLIGHT: This paper introduces persistence bag-of-words: a novel and stable vectorized representation of PDs that enables the seamless integration with machine learning.
- 625, TITLE: Exploiting the Sign of the Advantage Function to Learn Deterministic Policies in Continuous Domains  
<https://www.ijcai.org/proceedings/2019/625>  
AUTHORS: Matthieu Zimmer, Paul Weng  
HIGHLIGHT: In the context of learning deterministic policies in continuous domains, we revisit an approach, which was first proposed in Continuous Actor Critic Learning Automaton (CACLA) and later extended in Neural Fitted Actor Critic (NFAC).