

IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS

A PUBLICATION OF THE IEEE COMPUTATIONAL INTELLIGENCE SOCIETY

<http://cis.ieee.org/tnnls>



JULY 2020

VOLUME 31

NUMBER 7

ITNNEP

(ISSN 2162-237X)

SPECIAL ISSUE ON STRUCTURED MULTI-OUTPUT LEARNING: MODELING, ALGORITHM, THEORY, AND APPLICATIONS

GUEST EDITORIAL

Special Issue on Structured Multi-Output Learning: Modeling, Algorithm, Theory, and Applications	W. Liu, X. Shen, Y.-S. Ong, I. W. Tsang, C. Gong, and V. Pavlovic	2236
--	---	------

SPECIAL ISSUE PAPERS

Insights Into Multiple/Single Lower Bound Approximation for Extended Variational Inference in Non-Gaussian Structured Data Modeling	Z. Ma, J. Xie, Y. Lai, J. Taghia, J.-H. Xue, and J. Guo	2240
Multiooutput Convolution Spectral Mixture for Gaussian Processes	K. Chen, T. van Laarhoven, P. Groot, J. Chen, and E. Marchiori	2255
Learning With Interpretable Structure From Gated RNN	B.-J. Hou and Z.-H. Zhou	2267
Distributed Selection of Continuous Features in Multilabel Classification Using Mutual Information	J. González-López, S. Ventura, and A. Cano	2280
Reconstruction Regularized Deep Metric Learning for Multi-Label Image Classification	C. Li, C. Liu, L. Duan, P. Gao, and K. Zheng	2294
RoSeq: Robust Sequence Labeling	J. T. Zhou, H. Zhang, D. Jin, X. Peng, Y. Xiao, and Z. Cao	2304
Does Tail Label Help for Large-Scale Multi-Label Learning?	T. Wei and Y.-F. Li	2315
GANE: A Generative Adversarial Network Embedding	H. Hong, X. Li, and M. Wang	2325
Dynamically Spatiotemporal Regularized Correlation Tracking	Y. Zheng, H. Song, K. Zhang, J. Fan, and X. Liu	2336
Exploiting Web Images for Multi-Output Classification: From Category to Subcategories	Y. Yao, F. Shen, G. Xie, L. Liu, F. Zhu, J. Zhang, and H. T. Shen	2348
A Probabilistic Zero-Shot Learning Method via Latent Nonnegative Prototype Synthesis of Unseen Classes	H. Zhang, H. Mao, Y. Long, W. Yang, and L. Shao	2361
Adaptive Kernel Value Caching for SVM Training	Q. Li, Z. Wen, and B. He	2376
Domain Adaptation With Neural Embedding Matching	Z. Wang, B. Du, and Y. Guo	2387
Robust Deep Co-Saliency Detection With Group Semantic and Pyramid Attention	Z.-J. Zha, C. Wang, D. Liu, H. Xie, and Y. Zhang	2398
Survey on Multi-Output Learning	D. Xu, Y. Shi, I. W. Tsang, Y.-S. Ong, C. Gong, and X. Shen	2409

(Contents Continued on Page 2235)

REGULAR PAPERS		
Label-less Learning for Emotion Cognition	<i>M. Chen and Y. Hao</i>	2430
Effective Data-Aware Covariance Estimator From Compressed Data	<i>X. Chen, H. Yang, S. Zhao, M. R. Lyu, and I. King</i>	2441
Robust Student Network Learning	<i>T. Guo, C. Xu, S. He, B. Shi, C. Xu, and D. Tao</i>	2455
Deep Reinforcement Learning for Sequence-to-Sequence Models	<i>Y. Keneshloo, T. Shi, N. Ramakrishnan, and C. K. Reddy</i>	2469
A Generic Improvement to Deep Residual Networks Based on Gradient Flow	<i>V. Santhanam and L. S. Davis</i>	2490
Learning Semisupervised Multilabel Fully Convolutional Network for Hierarchical Object Parsing	<i>X. Liu, Q. Xu, G. Adkins, E. Medwedeff, L. Lin, and S. Yan</i>	2500
Semi-Supervised Non-Negative Matrix Factorization With Dissimilarity and Similarity Regularization	<i>Y. Jia, S. Kwong, J. Hou, and W. Wu</i>	2510
Benchmarking Neural Networks For Quantum Computations	<i>N. H. Nguyen, E. C. Behrman, M. A. Moustafa, and J. E. Steck</i>	2522
Adaptive Neural Network Finite-Time Control for Multi-Input and Multi-Output Nonlinear Systems With Positive Powers of Odd Rational Numbers	<i>Y. Li, K. Li, and S. Tong</i>	2532
Pay Attention to Them: Deep Reinforcement Learning-Based Cascade Object Detection	<i>S. Liu, D. Huang, and Y. Wang</i>	2544
The Strength of Nesterov's Extrapolation in the Individual Convergence of Nonsmooth Optimization	<i>W. Tao, Z. Pan, G. Wu, and Q. Tao</i>	2557
Debiasing and Distributed Estimation for High-Dimensional Quantile Regression ...	<i>W. Zhao, F. Zhang, and H. Lian</i>	2569
Adversarial Examples: Opportunities and Challenges	<i>J. Zhang and C. Li</i>	2578
Large Margin Partial Label Machine	<i>J. Chai, I. W. Tsang, and W. Chen</i>	2594
A Deep One-Class Neural Network for Anomalous Event Detection in Complex Scenes	<i>P. Wu, J. Liu, and F. Shen</i>	2609
Neural Probabilistic Graphical Model for Face Sketch Synthesis	<i>M. Zhang, N. Wang, Y. Li, and X. Gao</i>	2623
Backpropagation With N -D Vector-Valued Neurons Using Arbitrary Bilinear Products	<i>Z.-C. Fan, T.-S. T. Chan, Y.-H. Yang, and J.-S. R. Jang</i>	2638
Mask Dynamic Routing to Combined Model of Deep Capsule Network and U-Net	<i>J. Chen and Z. Liu</i>	2653
<hr/>		
BRIEF PAPERS		
Deep Model Compression and Inference Speedup of Sum–Product Networks on Tensor Trains		
..... <i>C.-Y. Ko, C. Chen, Z. He, Y. Zhang, K. Batselier, and N. Wong</i>	2665	
Exploring Duality in Visual Question-Driven Top-Down Saliency	<i>S. He, C. Han, G. Han, and J. Qin</i>	2672
Optimizing for Measure of Performance in Max-Margin Parsing	<i>A. Bauer, S. Nakajima, N. Görnitz, and K.-R. Müller</i>	2680
<hr/>		
ANNOUNCEMENTS		
Call For Papers: Special Issue on New Frontiers in Extremely Efficient Reservoir Computing		2685
Call For Papers: Special Issue on Biologically Learned/Inspired Methods for Sensing, Control and Decision Making		2686
