Dejiao Zhang

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Research Interests

Meeting Summarization, Theme Detection, Unsupervised Domain Adaptation, Neural Network Compression, Information Theory in Neural Networks, and Non-convex Optimization.

Education

Unverisity of Michigan — Ann Arbor, USA
Ph.D. Electrical Engineering and Computer Science — 09/2013 – 05/2019
Major: Signal Processing | Minor: Statistics — Advisor: Prof. Laura Balzano
Thesis: Extracting Compact Knowledge From Massive Data

Nanjing University of Information Science and Technology — Nanjing, China
B.S. Information Engineering — 09/2009 – 06/2013

Work Experience

08/2019 – present | Applied Scientist II *Amazon Web Services, New York*
Projects: Meeting Summarization, Theme Detection in Dyadic Conversations

06/2017 – 08/2017 | Data Science PhD Intern at Technicolor AI Lab, *Los Altos, CA*
Mentor: Brian Eriksson & Yifan Sun
Project: Deep Unsupervised Clustering with Mixture of Autoencoders.

Teaching Experience

09/2018 – 12/2018 | Graduate Student Instructor of EECS 598 (Reinforcement Learning)
University of Michigan, Ann Arbor
One of the two instructors teaching the discussion session of this course.

Publications

Journal

1 **Zhang**, **D.** & Balzano, L. (2018). Convergence of a grassmannian gradient descent algorithm for subspace estimation from undersampled data. *In preparation*. link.

2 He, J., **Zhang**, **D.**, Balzano, L. & Tao, T. (2014). Iterative grassmannian optimization for robust image alignment. *Image and Vision Computing*, *32*(10), 800–813. link.

Conference

1 **Zhang**, **D.**, Nallapati, R., Zhu, H., Nan, F., Nogueira dos Santos, C., McKeown, K. & Xiang, B. (2020). Unsupervised domain adaptation for cross-lingual text labeling. Accepted to Findings of EMNLP 2020.

2 **Zhang**, **D.**, Zhao, T. & Balzano, L. (2018). Information maximization auto-encoding. Accepted to the Workshop on Bayesian Deep Learning, NeurIPS 2018, link.

3 Zhao, T., **Zhang**, **D.**, Sun, Z. & Honglak, L. (2018). Information regularized neural networks. Accepted to the Workshop on Integration of Deep Learning Theories, NeurIPS 2018, link.

4 **Zhang**, **D.**, Wang, H., Figueiredo, M. & Balzano, L. (2018). Learning to share: Simultaneous parameter tying and sparsification in deep learning. In *Proceedings of the 6th International Conference on Learning Representations (ICLR 2018)*. link
Awarded ICLR student travel grant.

5 Ongie, G., Hong, D., **Zhang**, **D.** & Balzano, L. (2018). Online estimation of coherent subspaces with adaptive sampling. In *2018 IEEE Statistical Signal Processing Workshop (SSP)*. link.

6 **Zhang**, **D.**, Katz-Samuels, J., Figueiredo, M. A. & Balzano, L. (2018). Simultaneous sparsity and parameter tying for deep learning using ordered weighted L1 regularization. In *Proceedings of the IEEE Statistical Signal Processing Workshop (SSP, 2018)*. link.

7 **Zhang**, **D.** & Balzano, L. (2017). Matched subspace detection using compressively sampled data. In *2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. link.

8 **Zhang**, **D.** & Balzano, L. (2016). Global convergence of a grassmannian gradient descent algorithm for subspace estimation. In *Proceedings of The 19th International Conference on Artificial Intelligence and Statistics (AISTATS)*. link.

9 He, J., **Zhang**, **D.**, Balzano, L. & Tao, T. (2013). Iterative online subspace learning for robust image alignment. In *Proceedings of The 10th IEEE International Conference and Workshops on Automatic Face and Gesture Recognition (FG)*. link.

Technical Report

1 **Zhang**, **D.**, Sun, Y., Eriksson, B. & Balzano, L. (2017). *Deep unsupervised clustering with mixture of autoencoders*. UMich Deep Blue Technical Report. link.

Professional Reviewing Activities

Journal
IEEE Transactions on Information Theory (T-IT)
IEEE Transactions on Signal Processing (TSP)
IEEE Transactions on Sensor
Conference
COLT 2017, ICML 2019

Skills

Languages: Python (preferred), CUDA, C/C++, Latex
Tools: TensorFlow, PyTorch, Theano, Keras, Matlab