Dejiao Zhang

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Address: 7W 34th St, NYC, NY

Education

Univerisity of Michigan — Ann Arbor, USA
Ph.D. in Electrical Engineering and Computer Science — 09/2013–05/2019
- Advisor: Laura Balzano
- Thesis: "Extracting Compact Knowledge From Massive Data"

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

Work Experience

Amazon Web Services — New York City, USA
Applied Scientist II at AWS AI Labs — 08/2019–Current
- Projects: Meeting Summarization, and Theme Detection in Dyadic Conversations

Technicolor AI Lab — Los Altos, USA
Data Science PhD Intern — 06/2017–09/2017
- Mentor: Brian Eriksson and Yifan Sun
- Project: Deep Unsupervised Clustering with Mixture of Autoencoders

Teaching

Graduate Student Instructor — Ann Arbor, USA
University of Michigan — 09/2018–12/2018
- Reinforcement Learning (EECS 598)

Patents

[1] *Apparatus and Method to Process and Cluster Data*, B. Eriksson, Y, Sun, **D. Zhang**. Patent grant 2019.

[2] *Programmatic Theme Detection in Contacts Analytics Services*, A. Arora, A. Deo, R. Nallapati, H. Zhu, A. Arikatla, S. Kanduri, S. Prabala, **D. Zhang**. Patent filed 2020.

[3] *Questions Disambiguation Using Generative Evidence Fusion and Round-Trip Prediction*, Y. Gao, H. Zhu, P. Ng, C. N. dos Santos, Z. Wang, F Nan, **D. Zhang**, R. Nallapati, A. Arnold, B. Xiang. Patent filed 2021.

[4] *Systems and Methods for Automated Communication Summarization*, W. Xiao, **D. Zhang**, K. Khanke, H. Zhu, R. Nallapati, A. Arnold, B. Xiang, X. Ma, A. Arora, A. Deo. Patent filed 2021.

Publications

Journal

[1] J. He, **D. Zhang**, L. Balzano, and T. Tao, "*Iterative Grassmannian optimization for robust image alignment*", *Image and Vision Computing*, vol. 32, no. 10, pp. 800–813, 2014.

Conference

[1] Y. Gao, H. Zhu, P. Ng, C. N. dos Santos, Z. Wang, F. Nan, **D. Zhang**, R. Nallapati, A. Arnold, and B. Xiang, "*Answering Ambiguous Questions through Generative Evidence Fusion and Round-Trip Prediction*", `Accepted to ACL-IJCNLP`, 2021.

[2] F. Nan, R. Nallapati, Z. Wang, C. Nogueira dos Santos, H. Zhu, **D. Zhang**, K. McKeown, and B. Xiang, "*Entity-level Factual Consistency of Abstractive Text Summarization*", `Accepted to EACL`, 2021.

[3] F. Nan, N. dos Santos, H. Zhu, P. Ng, K. McKeown, R. Nallapati, **D. Zhang**, Z. Wang, A. Arnold, and B. Xiang, "*Improving Factual Consistency of Abstractive Summarization via Question Answering*", `Accepted to ACL-IJCNLP`, 2021.

[4] **D. Zhang**, S. Li, W. Xiao, H. Zhu, R. Nallapati, A. Arnold, and B. Xiang, "*Pairwise Supervised Contrastive Learning of Sentence Representations*", `Accepted to EMNLP`, 2021.

[5] **D. Zhang**, F. Nan, X. Wei, S. Li, H. Zhu, K. McKeown, R. Nallapati, A. Arnold, and B. Xiang, "*Supporting Clustering with Contrastive Learning*", `Accepted to NAACL`, 2021.

[6] **D. Zhang**, R. Nallapati, H. Zhu, F. Nan, C. Nogueira dos Santos, K. McKeown, and B. Xiang, "*Margin-aware Unsupervised Domain Adaptation for Cross-lingual Text Labeling*", `Accepted to Findings of EMNLP`, 2020.

[7] G. Ongie, D. Hong, **D. Zhang**, and L. Balzano, "*Online Estimation of Coherent Subspaces with Adaptive Sampling*", `Accepted to the IEEE Statistical Signal Processing Workshop (SSP)`, 2018.

[8] **D. Zhang**, J. Katz-Samuels, M. A. Figueiredo, and L. Balzano, "*Simultaneous Sparsity and Parameter Tying for Deep Learning Using Ordered Weighted L1 Regularization*", `Accepted to the IEEE Statistical Signal Processing Workshop (SSP)`, 2018.

[9] **D. Zhang**, H. Wang, M. Figueiredo, and L. Balzano, "*Learning to Share: Simultaneous Parameter Tying and Sparsification in Deep Learning*", `Accepted to ICLR`, 2018.

[10] **D. Zhang**, T. Zhao, and L. Balzano, "*Information Maximization Auto-Encoding*", `Workshop on Bayesian Deep Learning, NeurIPS`, 2018.

[11] T. Zhao, **D. Zhang**, Z. Sun, and L. Honglak, "*Information Regularized Neural Networks*", `Workshop on Integration of Deep Learning Theories, NeurIPS`, 2018.

[12] G. Ongie, D. Hong, **D. Zhang**, and L. Balzano, "*Enhanced Online Subspace Estimation via Adaptive Sensing*", `Accepted to the Asilomar Conference on Signals, Systems, and Computers (Asilomar)`, 2017.

[13] **D. Zhang** and L. Balzano, "*Matched Subspace Detection Using Compressively Sampled Data*", `Accepted to the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)`, 2017.

[14] **D. Zhang** and L. Balzano, "*Global Convergence of A Grassmannian Gradient Descent Algorithm for Subspace Estimation.*", `Accepted to the International Conference on Artificial Intelligence and Statistics (AISTATS)`, 2016.

[15] J. He, **D. Zhang**, L. Balzano, and T. Tao, "*Iterative Online Subspace Learning for Robust Image Alignment*", `Accepted to the IEEE International Conference and Workshops on Automatic Face and Gesture Recognition (FG)`, 2013.

Preprints / Technical Report

[1] X. Jin, **D. Zhang**, H. Zhu, W. Xiao, S.-W. Li, X. Wei, A. Arnold, and X. Ren, *Lifelong pretraining: Continually adapting language models to emerging corpora.* https://arxiv.org/pdf/2110.08534.pdf, 2021.

[2] X. Wei, S. Wang, **D. Zhang**, P. Bhatia, and A. Arnold, *Knowledge Enhanced Pretrained Language Models: A Compreshensive Survey*. https://arxiv.org/pdf/2110.08455.pdf, 2021.

[3] **D. Zhang**, W. Xiao, H. Zhu, X. Ma, and A. O. Arnold, *Virtual Augmentation Supported Contrastive Learning of Sentence Representations*. https://arxiv.org/pdf/2110.08552.pdf, 2021.

[4] **D. Zhang**, Y. Sun, B. Eriksson, and L. Balzano, *Deep Unsupervised Clustering with Mixture of Autoencoders*. `UMich Deep Blue Technical Report`, 2017.

[5] **D. Zhang** and L. Balzano, *Convergence of a Grassmannian Gradient Descent Algorithm for Subspace Estimation from Undersampled Data*. https://arxiv.org/pdf/1610.00199.pdf, 2016.

Skills

Languages: Python (preferred), CUDA, C/C++, Latex

Tools: PyTorch (preferred), TensorFlow, Theano, Keras, Matlab

Professional Reviewing Activities

Journal

IEEE Transactions on Information Theory (T-IT)
IEEE Transactions on Signal Processing (TSP)
IEEE Sensors Journal

Conference

COLT 2017, ICML 2019, EMNLP 2021, ACL ARR 2022