

Dandan Guo

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Post-doctoral

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Research Interest

My research lies at the intersection of statistical machine learning and its combinations with real-world applications. I am interested in probabilistic methods, deep generative models, representation learning and meta learning. These developed models and algorithms have been applied to time series modeling, text analysis, natural language processing, few-shot generation (classification), and automatic radar target recognition.

Education

- **Post-doctoral. The Chinese University of Hong Kong, Shenzhen (2020 -2022.12)**

Advised by Hongyuan Zha

- **Ph.D. Xidian University, Xi'an (2014.09-2020.08)**

in Signal and Information Processing, Advised by Bo Chen

- **B.Sc. The North University of China, Taiyuan (2010.09-2014.07)**

in Optical Information Science and Technology

Publications

- [1] **Dandan Guo**, Zhuo Li, Meixi Zheng, He Zhao, Mingyuan Zhou and Hongyuan Zha. "Learning to Re-weight Examples with Optimal Transport for Imbalanced Classification", in Conference on Neural Information Processing Systems (**NeurIPS, 机器学习顶级国际会议, CCF-A 类会议, 接受率 25.6%**), 2022.
- [2] **Dandan Guo**, Long Tian, He Zhao, Mingyuan Zhou and Hongyuan Zha. "Adaptive Distribution Calibration for Few-Shot Learning with Hierarchical Optimal Transport", (**NeurIPS, 机器学习顶级国际会议, CCF-A 类会议, 接受率 25.6%**), 2022.
- [3] **Dandan Guo**, Chaojie Wang, Baoxiang Wang and Hongyuan Zha, "Learning Fair Representations via Graph Regularization and Distance Correlation Minimization", accepted by IEEE Transactions on Neural Networks and Learning Systems (**TNNLS, SCI 一区, 影响因子 14.255**), 2022.

- [4] **Dandan Guo***, Ruiying Lu*, Bo Chen and Mingyuan Zhou. "Matching Visual Features to Hierarchical Semantic Topics for Image Paragraph Captioning", in International Journal of Computer Vision (**IJCV, CCF-A 类期刊**), 2022. *共同一作.
- [5] **Dandan Guo**, Long Tian, Minghe Zhang, Mingyuan Zhou and Hongyuan Zha. "Learning Prototype-oriented Set Representations for Meta-Learning ", in International Conference on Learning Representations (**ICLR, 清华计算机评定 A 类会议**), 2022.
- [6] Dongsheng Wang*, **Dandan Guo***, He Zhao, Huangjie Zheng, Korawat Tanwisuth, Bo Chen and Mingyuan Zhou. "Representing Mixtures of Word Embeddings with Topic Embeddings ", (**ICLR, 清华计算机评定 A 类会议**), 2022. *共同一作.
- [7] **Dandan Guo**, Bo Chen, Meixi Zheng and Hongwei Liu. " SAR Automatic Target Recognition based on Supervised Deep Variational Auto-encoding Model ", in IEEE Transactions on Aerospace and Electronic Systems (**TAES, 二区, 影响因子 4.102, 航空领域顶级期刊**), 2021.
- [8] **Dandan Guo**, Bo Chen, Ruiying Lu and Mingyuan Zhou. " Recurrent Hierarchical Topic-Guided RNN for Language Generation", in International Conference on Machine Learning (**ICML, 机器学习顶级国际会议, CCF-A 类会议, 谷歌引用 16**), 2020.
- [9] **Dandan Guo**, Bo Chen, Wenchao Chen and Mingyuan Zhou, Hongwei Liu. "Variational Temporal Deep Generative Model for Radar HRRP Target Recognition", in IEEE Transactions on Signal Processing (**TSP, 信号处理顶级期刊, SCI 一区, 影响因子 4.931, 谷歌引用 18**), 2020.
- [10] **Dandan Guo**, Bo Chen, Hao Zhang and Mingyuan Zhou. "Deep Poisson Gamma Dynamical Systems." (**NeurIPS, 机器学习顶级国际会议, CCF-A 类会议, 谷歌引用 24**), 2018.
- [11] Jinpeng Hu, He Zhao, **Dandan Guo***, Xiang Wan*, Tsung-Hui Chang. " A Label-Aware Autoregressive Framework for Cross-Domain NER". Findings of **NAACL** (自然语言处理顶级会议), 2022. *共同通信.
- [12] Chuan Du, Yulai Cong, Lei Zhang, **Dandan Guo**, Song Wei. "A Practical Deceptive Jamming Method Based on Vulnerable Location Awareness Adversarial Attack for Radar

HRRP Target Recognition" in IEEE Transactions on Information Forensics and Security(TIFS, SCI 一区, 影响因子 7.178), 2022.

[13] Hao Zhang, Bo Chen, Yulai Cong, **Dandan Guo**, Hongwei Liu, and Mingyuan Zhou. "Deep Autoencoding Topic Model with Scalable Hybrid Bayesian Inference", IEEE IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI, 机器学习顶级期刊, CCF-A 类期刊, 影响因子:17.73, 谷歌引用 25), 2020.

[14] Chuan Du, Bo Chen, Bin Xu, **Dandan Guo**, and Hongwei Liu, "Factorized discriminative conditional variational auto-encoder for radar HRRP target recognition," Signal Processing (SP, 信号处理期刊, SCI 二区, 影响因子: 4.086, 谷歌引用 41), vol. 158, pp. 176–189, 2019.

[15] Hao Zhang, Bo Chen, **Dandan Guo**, and Mingyuan Zhou. "WHAI. Weibull Autoencoding Inference for Deep Topic Modeling", (ICLR, 机器学习顶级国际会议, 清华计算机评定 A 类会议, 谷歌引用 74) , 2018.

Under Review

[1] **Dandan Guo**, Long Tian, Chuan Du, Pengfei Xie, Bo Chen, Lei Zhang, "Suspicious Object Detection for Millimeter-Wave Images with Multi-View Fusion Siamese Network", submitted to **IEEE TIP**, 2021.

[2] Dongsheng Wang, **Dandan Guo**, He Zhao, Bo Chen, Mingyuan Zhou. "Improving Neural Topic Models by Contrastive Learning with BERT". submitted to **TNNLS**, 2022.

[3] Dongsheng Wang, He Zhao, **Dandan Guo**, Bo Chen, Mingyuan Zhou. "Towards Improving Topic Models with the BERT-based Neural Topic Encoder". submitted to **ACM TOIS**, 2022.

[4] Ruiying Lu, Bo Chen, **Dandan Guo**, Dongsheng Wang, Mingyuan Zhou. "Hierarchical Topic-Aware Contextualized Transformers". submitted to **T-ASL**, 2022.

Experience Discrete Dynamical Systems (DDS) for COVID-19 Forecast
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