

Dongjie Wang

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RESEARCH INTERESTS	My research interests encompass a diverse range of fields including data-centric artificial intelligence, root cause analysis, causal graph learning, spatial-temporal data mining, and recommendation systems.	
EDUCATION	Ph.D. student, Computer Science, University of Central Florida, 2020.01 - Present M.S. , Software Engineering, Southwest Jiaotong University, 2016.09 - 2019.06. B.S. , Computer Science, Sichuan University, 2012.09 - 2016.06.	
HONORS & AWARDS	<ul style="list-style-type: none">• Student Travel Award, AAAI, 2022.12• Student Travel Award, ACM SIGKDD, 2022.06• UCF Doctoral Research Support Award 2022.05• IEEE ICDM 2021 Best Paper Runner Up Award 2021.10• ACM SIGSPATIAL 2020 Best Paper Runner Up Award 2020.08• Dell EMC Mars Data Challenge Hackathon (Chengdu, China): Second Place 2018.01• Alibaba Tianchi Big Data - UAV Route Optimization and Planning Competition (9th/1646 teams) 2017.10	
WORKING EXPERIENCE	Summer Intern , Nokia Bell Labs NOKIA, USA	2023.05 - 2023.08
	<ul style="list-style-type: none">• Study and publish papers related to causal discovery.	
	Summer Intern , NEC Laboratories America NEC, USA	2022.05 - 2022.08
	<ul style="list-style-type: none">• Study and publish papers related to the root cause analysis topic.	
	Summer Intern , JD Group Silicon Valley Research Center JD, USA	2021.05 - 2021.08
	<ul style="list-style-type: none">• Study and implement the conversational recommendation system at JD.com.	
	Algorithm Engineer , Recommendation Algorithm Technology Center, JOYY Inc, China	2019.07 - 2019.12
	<ul style="list-style-type: none">• Implement recommendation algorithm strategies for serving a short video software that function likes TikTok.	
	Research Intern , Urban Computing Research Lab, JD, China	2018.08 - 2018.12
	<ul style="list-style-type: none">• Employ machine learning model to discover urban functional zones of Beijing.	
TEACHING EXPERIENCE	Teaching Assistant , Department of Computer Science University of Central Florida, Orlando, FL	2020.08 - 2020.12 2021.01 - 2021.04
	<ul style="list-style-type: none">• Machine Learning	
CONFERENCE PUBLICATIONS	<ol style="list-style-type: none">1 Dongjie Wang, Meng Xiao, Min Wu, Pengfei Wang, Yuanchun Zhou, Yanjie Fu. Reinforcement-Enhanced Autoregressive Feature Transformation: Gradient-steered Search in Continuous Space for Postfix Expressions. <i>The 37-th Conference on Neural Information Processing Systems</i>, 2023. (NeurIPS, Spotlight)2 Dongjie Wang, Zhengzhang Chen, Yanjie Fu, Yanchi Liu, and Haifeng Chen. Incremental Causal Graph Learning for Online Unsupervised Root Cause Analysis. <i>The 29-th ACM SIGKDD Conference</i>, 2023. (KDD)	

- 3 **Dongjie Wang**, Zhengzhang Chen, Jingchao Ni, Liang Tong, Zheng Wang, Yanjie Fu, and Haifeng Chen. Interdependent Causal Networks for Root Cause Localization. *The 29-th ACM SIGKDD Conference*, 2023. (**KDD**)
- 4 **Dongjie Wang**, Yanjie Fu, Kunpeng Liu, Xiaolin Li, and Yan Solihin. Group-wise Reinforcement Feature Generation for Optimal and Explainable Representation Space Reconstruction. *The 28-th ACM SIGKDD Conference*, 2022. (**KDD**)
- 5 **Dongjie Wang**, Lingfei Wu, Denghui Zhang, Jingbo Zhou, Leilei Sun, and Yanjie Fu. Human-instructed Deep Hierarchical Generative Learning for Automated Urban Planning. *Proceedings of the 37th AAAI Conference on Artificial Intelligence*, 2023. (**AAAI**)
- 6 **Dongjie Wang**, Pengyang Wang, Kunpeng Liu, Yuanchun Zhou, Charles Hughes, and Yanjie Fu. Reinforced Imitative Graph Representation Learning for Mobile User Profiling: An Adversarial Training Perspective. *Proceedings of the 35th AAAI Conference on Artificial Intelligence*, 2021. (**AAAI**)
- 7 **Dongjie Wang**, Yanjie Fu, Pengyang Wang, Bo Huang, Chang-Tien Lu. Reimagining City Configuration: Automated Urban Planning via Adversarial Learning. *The 28th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, 2020. (**SIGSPATIAL**) (**Best Paper Runner-up**; Reported by [Synced AI](#), [UCF Today](#))
- 8 **Dongjie Wang**, Kunpeng Liu, Pauline Johnson, Leilei Sun, Bowen Du, Yanjie Fu. Deep Human-guided Conditional Variational Generative Modeling for Automated Urban Planning. *The 21th IEEE International Conference on Data Mining*, 2021. (**ICDM**) (**Best Paper Runner-up**)
- 9 **Dongjie Wang**, Yan Yang, Shangming Ning. DeepSTCL: A Deep Spatio-temporal ConvLSTM for Travel Demand Prediction. *Proceedings of 2018 International Joint Conference on Neural Networks (IJCNN)*.
- 10 **Dongjie Wang**, Pengyang Wang, Jingbo Zhou, Leilei Sun, Bowen Du, Yanjie Fu. Defending Water Treatment Networks: Exploiting Spatio-temporal Effects for Cyber Attack Detection. *The 20th IEEE International Conference on Data Mining*, 2020. (**ICDM**)
- 11 **Dongjie Wang**, Kunpeng Liu, David Mohaisen, Pengyang Wang, Chang-Tien Lu, Yanjie Fu. Automated Feature-Topic Pairing: Aligning Semantic and Embedding Spaces in Spatial Representation Learning. *The 29th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, 2021. (**SIGSPATIAL**)
- 12 Xiting Wang, Kunpeng Liu, **Dongjie Wang**, Le Wu, Yanjie Fu, Xing Xie. Multi-level Recommendation Reasoning over Knowledge Graphs with Reinforcement Learning. *The Web Conference 2022*, 2022. (**WWW**)
- 13 Wei Fan, Pengyang Wang, Dongkun Wang, **Dongjie Wang**, Yuanchun Zhou, Yanjie Fu. Dish-TS: A General Paradigm for Alleviating Distribution Shift in Time Series Forecasting. *Proceedings of the 37th AAAI Conference on Artificial Intelligence*, 2023. (**AAAI**)
- 14 Kunpeng Liu, Pengfei Wang, **Dongjie Wang**, Wan Du, Dapeng Oliver Wu, Yanjie Fu. Efficient Reinforced Feature Selection via Early Stopping Traverse Strategy. *The 21th IEEE International Conference on Data Mining*, 2021. (**ICDM**) (**Best Paper Runner-up**)

- 15 Wei Zhou, Hao Wang, Yiling Zhang, Cheng Long, Yan Yang, **Dongjie Wang**. Multi-scale Progressive Gated Transformer for Physiological Signal Classification. *The 14th Asian Conference on Machine Learning*, 2022. (**ACML**)
- 16 Meng Xiao, **Dongjie Wang**, Min Wu, Ziyue Qiao, Pengfei Wang, Kunpeng Liu, Yuanchun Zhou, Yanjie Fu. Traceable Automatic Feature Transformation via Cascading Actor-Critic Agents. *Proceedings of the 2023 SIAM International Conference on Data Mining*, 2023. (**SDM**)
- 17 Pengfei Wang, Daniel Wang, Kunpeng Liu, **Dongjie Wang**, Yuanchun Zhou, Leilei Sun, Yanjie Fu. Hierarchical Reinforced Urban Planning: Jointly Steering Region and Block Configurations. *Proceedings of the 2023 SIAM International Conference on Data Mining*, 2023. (**SDM**)
- 18 Ehtesamul Azim, **Dongjie Wang**, Yanjie Fu. Deep Graph Stream SVDD: Anomaly Detection in Cyber-Physical Systems. *The 26th Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 2023. (**PAKDD**)
- 19 Meng Xiao, **Dongjie Wang**, Min Wu, Pengfei Wang, Yuanchun Zhou, Yanjie Fu. Beyond Discrete Selection: Continuous Embedding Space Optimization for Generative Feature Selection. *The 23th IEEE International Conference on Data Mining*, 2023. (**ICDM**)
- 20 Wangyang Ying, **Dongjie Wang**, Kunpeng Liu, Leilei Sun, and Yanjie Fu. Self-optimizing Feature Generation via Categorical Hashing Representation and Hierarchical Reinforcement Crossing. *The 23th IEEE International Conference on Data Mining*, 2023. (**ICDM**)

JOURNAL
PUBLICATIONS

- 1 **Dongjie Wang**, Pengyang Wang, Yanjie Fu, Kunpeng Liu, Hui Xiong, Charles Hughes. “Reinforced Imitative Graph Learning for Mobile User Profiling”. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*. 2023.
- 2 **Dongjie Wang**, Yanjie Fu, Kunpeng Liu, Fanglang Chen, Pengyang Wang, Chang-Tien Lu. “Automated Urban Planning for Reimagining City Configuration via Adversarial Learning: Quantification, Generation, and Evaluation”. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*. 2022.
- 3 **Dongjie Wang**, Kunpeng Liu, Hui Xiong, Yanjie Fu. “Online POI Recommendation: Learning Dynamic Geo-Human Interactions in Streams”. *IEEE Transactions on Big Data (TBD)*. 2022.
- 4 **Dongjie Wang**, Kunpeng Liu, Yanyong Huang, Leilei Sun, Bowen Du, Yanjie fu. “Automated Urban Planning aware Spatial Hierarchies and Human Instructions”. *Knowledge and Information Systems (KAIS)*. (**Honor of ICDM Best**) 2022.
- 5 Kunpeng Liu, **Dongjie Wang**, Wan Du, Dapeng Oliver Wu, Yanjie Fu. “Interactive Reinforced Feature Selection with Traverse Strategy”. *Knowledge and Information Systems (KAIS)*. (**Honor of ICDM Best**) 2022.
- 6 Wei Zhou, Yan Yang, Yiling Zhang, **Dongjie Wang**, Xiaobo Zhang. Deep Flexible Structured Spatial-Temporal Model for Taxi Capacity Prediction. *Knowledge-Based Systems*, 2020. (**KBS**)
- 7 Pengyang Wang, Kunpeng Liu, **Dongjie Wang**, Yanjie Fu. Measuring Urban Vibrancy of Residential Communities Using Big Crowdsourced Geotagged Data. *Frontiers in Big Data*, 2021.

	8 Fanglan Chen, Dongjie Wang , Shuo Lei, Jianfeng He, Yanjie Fu, Chang-Tien Lu. “Adaptive Graph Convolutional Imputation Network for Environmental Sensor Data Recovery”. <i>Frontiers in Environmental Science</i> . 2022.
	9 Lu Jiang, Kunpeng Liu, Yibin Wang, Dongjie Wang , Pengyang Wang, and Yanjie Fu, Minghao Yin. “Reinforced Explainable Knowledge Concept Recommendation in MOOCs”. <i>ACM Transactions on Intelligent Systems and Technology (TIST)</i> . 2022.
	10 Yanyong Huang, Zongxin Shen, Yuxin Cai, Xiuwen Yi, Dongjie Wang , Fengmao Lv, Tianrui Li. “C ² IMUFS: Complementary and Consensus Learning-based Incomplete Multi-view Unsupervised Feature Selection”. <i>IEEE Transactions on Knowledge and Data Engineering (TKDE)</i> . 2023.
JOURNAL UNDER REVIEW	1 Meng Xiao, Dongjie Wang , Yanjie Fu, Kunpeng Liu, Min Wu, Hui Xiong, Yuanchun Zhou. “Traceable Group-Wise Self-Optimizing Feature Transformation Learning: A Dual Optimization Perspective”. <i>ACM Transactions on Knowledge Discovery from Data (TKDD)</i> . Submitted.
PROGRAM COMMITTEES	<ul style="list-style-type: none"> • The ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2023 • The International Joint Conference on Artificial Intelligence (IJCAI) 2021, 2022, 2023 • The Conference on Information and Knowledge Management (CIKM) 2022, 2023 • The ACM Web Search and Data Mining Conference (WSDM) 2023, 2024 • AAAI Conference on Artificial Intelligence (AAAI) 2023, 2024 • The SIAM International Conference on Data Mining (SDM) 2024 • The Journal of Knowledge-based Systems (KBS) • The Journal of IEEE Transactions on Big Data (TBD) • The Journal of IEEE Transactions on Neural Networks and Learning Systems (TNNLS)