

## 研究方向

### Graph Learning

Graph Neural Network; Geometric Deep Learning; Graph-Related LLMs

### AI for Science

Graph for Science, Drug Discovery, Molecular Representation Learning, Computational Electromagnetics

### Industry Application

AI for IT Operations; Fake News Detection; Fraud Analysis and Detection;

## 教育背景

- 2018–2021 计算机科学 博士.  
佛罗里达州立大学, 美国
- 博士毕业论文: 《Mining on Graphs: Graph Neural Network and Applications》
  - 博士导师: Jiawei Zhang(张嘉洧), Ph.D.
- 2015–2017 计算机科学 硕士.  
伍斯特理工学院, 美国
- 硕士导师: Xiangnan Kong(孔祥南), Ph.D.
- 2011–2015 软件工程学士, 法学双学士.  
南京大学, 中国

## 工作经历

- 2025–至今 助理教授 (**Tenure-track**), 南京大学-智能科学与技术学院, 苏州, 中国.
- 特聘研究员、博士生导师
- 2022–2025 高级研究员, 华为中央研究院-先进计算与存储实验室, 上海, 中国.
- 天才少年计划
- 2018–2021 研究助理, 佛罗里达州立大学-计算机科学系, 佛罗里达, 美国.
- 导师: Jiawei Zhang, Ph.D.
- 2020, 2021 科研实习生, NEC 美国研究院-深度学习组, 普林斯顿, 美国.
- 导师: Lu-An Tang, Ph.D. and Wei Cheng, Ph.D.
- 2019 科研实习生, 京东硅谷研究院-机器学习组, 加利福尼亚, 美国.
- 导师: Liefeng Bo, Ph.D. and Bo Liu, Ph.D.
- 2018 科研实习生, 京东数科-风险管理部, 北京, 中国.
- 导师: Hao Zhu, Ph.D.
- 2016-2017 软件开发实习生, Dealertrack Technologies, 康涅迪格 美国.
- 2014-2015 软件开发实习生, IBM CDL 中国研发实验室, 上海, 中国.

## 奖项与荣誉

|      |                                  |            |
|------|----------------------------------|------------|
| 2025 | 公有云业务部总裁奖                        | 华为技术有限公司   |
| 2025 | 终端云服务总裁奖                         | 华为技术有限公司   |
| 2025 | 华为 2012 实验室总裁奖                   | 华为技术有限公司   |
| 2024 | 新型电力系统智能仿真器驭电-卓越人工智能引领者 (SAIL 奖) | 世界人工智能大会   |
| 2023 | 华为云公有云总裁奖                        | 华为技术有限公司   |
| 2022 | 华为中央研究院总裁奖                       | 华为技术有限公司   |
| 2021 | Academic Travel Award            | 佛罗里达州立大学   |
| 2020 | ICDM Student Travel Award        | IEEE ICDM  |
| 2020 | AAAI Student Travel Award        | AAAI DLGMA |
| 2019 | NSF Student Travel Award         | IEEE TPS   |
| 2019 | NSF Student Travel Award         | IEEE ICDE  |
| 2013 | 艺术体育特长人民奖学金                      | 南京大学       |
| 2013 | 人民奖学金                            | 南京大学       |
| 2012 | 优秀共青团员                           | 南京大学       |

## 教授课程

- 2020 春 **CIS 5930-0003: Deep Learning and Applications.**  
计算机学院, 佛罗里达州立大学  
Co-instructor: Jiawei Zhang, Ph.D
- 2019 春 **CIS 5930-0002: Advanced Data Mining.**  
计算机学院, 佛罗里达州立大学  
Co-instructor: Jiawei Zhang, Ph.D
- 2018 春 **CIS 5930-0004: Social Network Mining.**  
计算机学院, 佛罗里达州立大学  
Co-instructor: Jiawei Zhang, Ph.D

## 学术论文

发表论文 会议论文 : 26, 期刊论文 : 4  
在投论文 提交会议 : 4, 提交期刊 : 3

### 会议论文

\*: 共同一作 ◇: 通讯作者

- [C1] Yuhan Li, Yuyao Wang, Jianheng Tang, Heng Chang, **Yuxiang Ren**, Jia Li. Advancing Graph Foundation Models: A Data-Centric Perspective. In: Proceedings of the ACM SIGKDD Conference on Knowledge Discovery and Data Mining 2025 (SIGKDD '25)(**CCF-A**)
- [C2] Wenhao Liu, Zhenyi Lu, Xinyu Hu, Jerry Zhang, Dailin Li, Jiacheng Cen, Huilin Cao, Haiteng Wang, Yuhan Li, Xie Kun, Dandan Li, Pei Zhang, Chengbo Zhang, **Yuxiang Ren**◇, Yan Ma, Xiaohong Huang. STORM-BORN: A Challenging Mathematical Derivations Dataset Curated via a Human-in-the-Loop Multi-Agent Framework. In: Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL '25 Findings). (**CCF-A**)
- [C3] Shengyin Sun\*, **Yuxiang Ren**\*◇, Jiehao Chen, and Chen Ma. Large Language Models as Topological Structure Enhancers for Text-Attributed Graphs. In: Proceedings of The 30th International Conference on Database Systems for Advanced Applications (DASFAA '25 Oral). (**CCF-B**)

- [C4] Yuhan Li, Xinni Zhang, Linhao Luo, Heng Chang, **Yuxiang Ren**, Irwin King, Jia Li. G-Refer: Graph Retrieval-Augmented Large Language Model for Explainable Recommendation. In: Proceedings of The Web Conference 2025 (*WWW '25 Oral*). (CCF-A)
- [C5] Jianxiang Yu, **Yuxiang Ren**<sup>◇</sup>, Chenghua Gong, Jiaqi Tan, Xiang Li and Xuechang Zhang. Using LLMs for Node Generation in Few-shot Learning on Text-Attributed Graphs. In: Proceedings of the Thirty-Eighth AAAI Conference on Artificial Intelligence(AAAI '25). (CCF-A)
- [C6] Shengyin Sun\*, Wenhao Yu\*, **Yuxiang Ren**<sup>◇</sup>, Weitao Du, Liwei Liu, Xuechang Zhang, Ying Hu and Chen Ma. GDiffRetro: Retrosynthesis Prediction with Dual Graph Enhanced Molecular Representation and Diffusion Generation. In: Proceedings of the Thirty-Eighth AAAI Conference on Artificial Intelligence(AAAI '25 Oral). (CCF-A)
- [C7] Tianyu Zhang\*, **Yuxiang Ren**\*<sup>◇</sup>, Chengbin Hou, Hairong Lv, and Xuegong Zhang, Molecular Graph Representation Learning Integrating Large Language Models with Domain-specific Small Models. In: Proceedings of International Conference on Bioinformatics and Biomedicine (*IEEE BIBM '24*). (CCF-B)
- [C8] Jiacheng Cen, Anyi Li, Ning Lin, **Yuxiang Ren**, Wenbing Huang. Are High-Degree Representations Really Unnecessary in Equivariant Graph Neural Networks? In: Proceedings of The Thirty-eighth Annual Conference on Neural Information Processing Systems (*NeurIPS'24*) (CCF-A)
- [C9] Wanhao Zhang, Qianli Zhang, Enyu Yu, **Yuxiang Ren**<sup>◇</sup>, Yeqing Meng, Mingxi Qiu and Jilong Wang. Leveraging RAG-Enhanced Large Language Model for Semi-Supervised Log Anomaly Detection. In: Proceedings of the 35th IEEE International Symposium on Software Reliability Engineering(*ISSRE '24*). (CCF-B)
- [C10] Haoran Sun, Maokun Li, **Yuxiang Ren**, Fan Yang, Shenheng Xu. Fast Electromagnetic Scattering Calculation for UAV Targets Based on Graph Neural Networks. In: 2024 International Applied Computational Electromagnetics Society Symposium(*ACES-China 2024*), Xi'an, China, August 16-19, 2024.
- [C11] Wanhao Zhang, Qianli Zhang, Enyu Yu, **Yuxiang Ren**<sup>◇</sup>, Yeqing Meng, Mingxi Qiu and Jilong Wang. LogRAG: Semi-Supervised Log-based Anomaly Detection with Retrieval-Augmented Generation. In: Proceedings of 2024 IEEE International Conference on Web Services(*IEEE ICWS'24*), Shenzhen, China, July 7-13, 2024. (CCF-B)
- [C12] Tianyu Zhang\*, **Yuxiang Ren**\*<sup>◇</sup>, Wenzheng Feng, Weitao Du, Xuechang Zhang. CGCL: Collaborative Graph Contrastive Learning without Handcrafted Graph Data Augmentations. In: Proceedings of the 29th International Conference on Database Systems for Advanced Applications (*DASFAA '24*), Gifu, Japan, July 2-5, 2024. (CCF-B)
- [C13] Kailong Wu, Xie Yule, Jiaxin Ding, **Yuxiang Ren**, Luoyi Fu, Xinbing Wang, Chenghu Zhou. Characterizing the Influence of Topology on Graph Learning Tasks In: Proceedings of the 29th International Conference on Database Systems for Advanced Applications (*DASFAA '24*), Gifu, Japan, July 2-5, 2024. (CCF-B)
- [C14] Enyu Yu, Hui Dong, **Yuxiang Ren**<sup>◇</sup>, Minzhi Yan, Xuechang Zhang, Yi Yang, Le Yue, Zhengbin Huang. HRCA: A Heterogeneous Graph-based Adaptive Root Cause Analysis Framework In: Proceedings of 2023 IEEE 34th International Symposium on Software Reliability Engineering(*ISSRE '23 Industry Track*), Florence, Italy, October 9-12, 2023. (CCF-B)
- [C15] Lin Meng, **Yuxiang Ren** and Jiawei Zhang. Decoupling Graph Neural Network with Contrastive Learning for Fraud Detection. In: Proceedings of the 28th International Conference on Database Systems for Advanced Applications (*DASFAA '23*), Tianjin, China, April 17-20, 2023. (CCF-B)

- [C16] **Yuxiang Ren\***, Jiyang Bai\* and Jiawei Zhang. Label Contrastive Coding based Graph Neural Network for Graph Classification. In: Proceedings of the 26th International Conference on Database Systems for Advanced Applications (*DASFAA '21*), Taiwan, China, April 11-14, 2021. (**CCF-B**)
- [C17] **Yuxiang Ren**, Hao Zhu, Jiawei Zhang, Liefeng Bo, and Peng Dai. EnsemFDet: An Ensemble Approach to Fraud Detection based on Bipartite Graph. In: Proceedings of the 2021 IEEE International Conference on Data Engineering (*ICDE '21*), Chania, Greece, April 19-22, 2021. (**CCF-A**)
- [C18] **Yuxiang Ren** and Jiawei Zhang. Fake News Detection on News-Oriented Heterogeneous Information Networks through Hierarchical Graph Attention. In: Proceedings of the 2021 International Joint Conference on Neural Networks (*IJCNN '21*), Virtual Event, July 18-22, 2021. (**CCF-C**)
- [C19] Jiyang Bai\*, **Yuxiang Ren\*** and Jiawei Zhang. Ripple Walk: A sampling based Graph Neural Network Optimization Framework. In: Proceedings of the 2021 International Joint Conference on Neural Networks (*IJCNN '21*), Virtual Event, July 18-22, 2021. (**CCF-C**)
- [C20] Jiyang Bai, **Yuxiang Ren** and Jiawei Zhang. BGADAM: Boosting based Genetic-Evolutionary ADAM for Convolutional Neural Network Optimization. In: Proceedings of the 2021 International Joint Conference on Neural Networks (*IJCNN '21*), Virtual Event, July 18-22, 2021. (**CCF-C**)
- [C21] **Yuxiang Ren**, Bo Wang, Jiawei Zhang and Yi Chang. Adversarial Active Learning based Heterogeneous Graph Neural Network for Fake News Detection. In: Proceedings of the 2020 IEEE International Conference on Data Mining (*ICDM '20*), Sorrento, Italy, November 17-20, 2020. (**CCF-B**)
- [C22] **Yuxiang Ren**, Lin Meng and Jiawei Zhang. Scalable Heterogeneous Social Network Alignment through Synergistic Graph Partition. In: Proceedings of 31st ACM Conference on Hypertext and Social Media (*ACM HT '20*), Virtual Edition, July 13-15 2020.
- [C23] **Yuxiang Ren**, Bo Liu, Peng Dai, Jiawei Zhang, Chao Huang and Liefeng Bo. HDGI: An Unsupervised Graph Neural Network for Representation Learning in Heterogeneous Graph. AAAI-20 Workshop on "Deep Learning on Graphs: Methodologies and Applications (AAAI-DLGMA)", New York, USA, February 7-12, 2020.
- [C24] Jiyang Bai, **Yuxiang Ren** and Jiawei Zhang. DEAM: Adaptive Momentum with Discriminative Weight for Stochastic Optimization. In: Proceedings of the 2020 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (*ASONAM '20*), Virtual Edition, Dec 7-10 2020.
- [C25] **Yuxiang Ren**, Charu C. Aggarwal and Jiawei Zhang. Meta Diagram based Active Social Networks Alignment. In: Proceedings of the 2019 IEEE International Conference on Data Engineering (*ICDE '19*), Macau SAR, China, April 8-12, 2019. (**CCF-A**)
- [C26] Lin Meng, **Yuxiang Ren**, Jiawei Zhang, Fanghua Ye and Philip S. Yu. Deep Heterogeneous Social Network Alignment. In: Proceedings of the 2019 IEEE International Conference on Cognitive Machine Intelligence (*IEEE CogMI '19*), Los Angeles, USA, December 12-14, 2019. (**Invited Paper**)

## 期刊论文

\*: 共同一作    ◇: 通讯作者

- [J1] Kaiwei Zhang, Yange Lin, Guangcheng Wu, **Yuxiang Ren**◇, Xuechang Zhang, Bo Wang, Xiaoyu Zhang, Weitao Du. Sculpting Molecules in Text-3D Space: A Flexible Substructure Aware

Framework for Text-Oriented Molecular Optimization. BMC BIOINFORMATICS, 2025. (SCI Q1)

- [J2] **Yuxiang Ren**<sup>◇</sup>, Charu C. Aggarwal and Jiawei Zhang. *ActiveIter*: Meta Diagram based Active Learning in Social Networks Alignment. IEEE Transactions on Knowledge and Data Engineering (TKDE), 2019. (SCI Q1, **CCF-A**)
- [J3] Jiyang Bai\*, **Yuxiang Ren**\*<sup>◇</sup> and Jiawei Zhang. Adaptive Momentum with Discriminative Weight for Neural Network Stochastic Optimization. International Journal of Intelligent Systems, 2022. (SCI Q1)
- [J4] Jiyang Bai\*, **Yuxiang Ren**\*<sup>◇</sup> and Jiawei Zhang. Measuring and Sampling: A Metric-guided Subgraph Training Framework for Graph Neural Network. International Journal of Intelligent Systems, 2022. (SCI Q1)

## 在投论文

\*: 共同一作   ◇: 通讯作者

- [M1] Liming Wu, Wenbing Huang, Rui Jiao, Jianxing Huang, Liwei Liu, Yipeng Zhou, Hao Sun, Yang Liu, Fuchun Sun, **Yuxiang Ren**<sup>◇</sup>, Jirong Wen. Siamese Foundation Models for Crystal Structure Prediction. Submit to Nature Machine Intelligence
- [M2] Huilin Cao\*, **Yuxiang Ren**<sup>◇</sup>, Haoran Sun, Jingwei Liang, Maokun Li. PGT-MSPDE: Graph Transformer for Multi-step PDEs Prediction. Submit to NeurIPS 2025.
- [M3] Junyu Chen, Junzhuo Li, Zhen Peng, Wenjie Wang, **Yuxiang Ren**, Long Shi, Xuming Hu. LoTA-QAF: Lossless Ternary Adaptation for Quantization-Aware Fine-Tuning. Submit to NeurIPS 2025.
- [M4] Huilin Cao\*, **Yuxiang Ren**<sup>◇</sup>, Haoran Sun, Tao Shan, Maokun Li. Physics-Data Hybrid Driven Edge-Featured Graph Attention Networks for Surface Currents Learning in EM Scattering of 3D PEC Targets. Submit to IEEE Transactions on Antennas and Propagation
- [M5] Yuhan Li\*, **Yuxiang Ren**\*, Heng Chang, Yuan Fang, Zhen Chen. Diff4CDR: Cross-domain Recommendation with Diffusion-based Augmentation. Submit to the 34th International Joint Conference on Artificial Intelligence (IJCAI'25)
- [M6] Yongjian Chang, Duxin Chen, **Yuxiang Ren**, Wenwu Yu. Multi-scale Dependency Modeling for Long-term Time-series Forecasting. Submit to IEEE Transactions on Big Data
- [M7] Yichen Ding, Hongyi Wu, **Yuxiang Ren**<sup>◇</sup>, Guojun Wang, Lu-An Tang, Haifeng Chen. Transfer Learning beyond Domains: Modular Network based Knowledge Sharing for Multiple Entities. Submit to Expert Systems With Applications.

## 授权专利

- 2024 CN118133031A: 石川, 任宇翔, 闫博. 异常事件检测方法、异常事件检测模型构建方法以及装置.
- 2023 US20230112441A1: LuAn Tang, Yuncong Chen, Wei Cheng, Zhengzhang Chen, Haifeng Chen, Yuji Kobayashi, **Yuxiang Ren**. Data fusion and analysis engine for vehicle sensors
- 2022 US20220111836A1: LuAn Tang, Wei Cheng, Haifeng Chen, Zhengzhang Chen, **Yuxiang Ren**. Modular network based knowledge sharing for multiple entities
- 2020 CN111652837A: 张航, 任宇翔, 赵佳琦, 章建全. 基于 AI 的甲状腺结节左右叶定位与超声报告纠错方法.

## 指导学生

- 2023–2025 曹慧琳.
- 博士研究生 @ 上海交通大学
  - 研究课题: AI for Science, GNN4PDE
  - 合作论文: [M2][M4]
- 2024–2025 李宇涵.
- 博士研究生 @ 香港科技大学
  - 研究课题: Graph RAG, Graph for LLM
  - 合作论文: [C4][C1]
- 2024–2025 刘文豪.
- 硕士研究生 @ 北京邮电大学
  - 研究课题: LLM4Math, LLM Benchmark
  - 合作论文: [C2]
- 2023–2024 虞健翔.
- 博士研究生 @ 华东师范大学
  - 研究课题: Graph Representation Learning
  - 合作论文: [C5]
- 2023–2024 于文昊.
- 硕士研究生 @ 香港中文大学
  - 研究课题: AI for Science
  - 合作论文: [C6]
- 2023–2024 孙圣印.
- 博士研究生 @ 香港城市大学
  - 研究课题: AI for Science
  - 合作论文: [C3][C6]
- 2023–2024 张天宇.
- 硕士研究生 @ 清华大学
  - 研究课题: Graph Representation Learning, AI for Science
  - 合作论文: [C7][C12]
- 2023–2024 张万豪.
- 硕士研究生 @ 清华大学
  - 研究课题: Artificial Intelligence for IT Operations
  - 合作论文: [C9][C11]
- 2023–2024 吴凯龙.
- 硕士研究生 @ 上海交通大学
  - 研究课题: Graph Neural Network, Topology Optimization
  - 合作论文: [C13]
- 2018–2022 白霁阳.
- 研究员 @ 华为泊松实验室
  - 研究课题: Graph Neural Network, Stochastic Optimization
  - 合作论文: [C16],[C19],[C20],[C24],[J3],[J4]

- 2018–2022 孟琳.
- 研究员 @ VISA Research Center
  - 研究课题: Social Network Alignment
  - 合作论文: [C15], [C22], [C26]
- 2018–2019 王博.
- 博士研究生 @ 吉林大学
  - 研究课题: Fake News Detection
  - 合作论文: [C21]

## 学术服务

### 国家标准制定

- 全国信息技术标准化技术委员会国家标准《信息技术神经网络表示与模型压缩第 3 部分：图神经网络》提案起草 (排名第四)

### 学术会议审稿

- Learning on Graphs Conference, *LoG 2024*
- IEEE International Conference on Bioinformatics and Biomedicine, *IEEE BIBM 2024*
- International Conference on Machine Learning, *ICML 2022*
- SIGKDD Conference of Knowledge Discovery and Data Mining, *KDD 2022, 2023, 2024*
- The Web Conference, *WWW 2023, 2024*
- IEEE World Congress on Computational Intelligence, *IEEE WCCI 2022*
- The International Conference on Learning Representations, *ICLR 2022, 2023*
- The Conference on Neural Information Processing Systems, *NeurIPS 2020, 2021*
- Thirty-Fifth AAAI Conference on Artificial Intelligence *AAAI 2021, 2023*
- The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, Research Track, *ECML-PKDD 2020*

### 期刊审稿

- IEEE Transactions on Pattern Analysis and Machine Intelligence *2025*
- IEEE Transactions on Industrial Informatics *2025*
- IEEE Transactions on Cybernetics *2025*
- Journal of Chemical Information and Modeling *2025*
- ACM Transactions on Knowledge Discovery from Data, *TKDD 2025*
- IEEE Transactions on Knowledge and Data Engineering, *TKDE 2020, 2021, 2025*
- IEEE Transactions on Neural Networks and Learning Systems, *TNNLS 2021, 2022*
- IEEE Transactions on Big Data *TBD 2020, 2021, 2025*
- Cybernetics and Systems *2022*
- Computer Networks *2024*
- IEEE Sensors Journal *2025*