RUOMENG DING

Email: rmding@gatech.edu Homepage: https://ruomengd.github.io/

Research Interests: Foundation Models for Reasoning, Reinforcement Learning, Trustworthy AI, and AIOps

EDUCATION

Georgia Institute of Technology *Aug, 2022 - Present*
Master in Computer Science (estimated graduation in *2025*) GPA: 4.0/4.0
- Both in Shenzhen and Atlanta Campus, pursuing a dual master's degree at TJU.

Tianjin University *Aug, 2018 - May, 2022*
Bachelor in Computer Science and Technology GPA: 3.75/4.0

RESEARCH EXPERIENCE

Microsoft Research, Redmond *May, 2024 - Aug, 2024*
Research Intern, advised by *Dr. Minghua Ma and Dr. Ze Li.*

- Focus on Multi Agents for Incident Triage in Azure system. (*1 paper in progress*)

University of Illinois Urbana-Champaign *Feb, 2024 - Aug 2024*
Research Intern, in *Dr. Tong Zhang*'s Group, working with *Rui Yang* and *Rui Pan*.

- Focus on Reliable and Robust Reward Model for RLHF. (*1 paper accepted by NeurIPS 2024, second author*)

Microsoft Research Asia *Nov, 2022 - Aug, 2023*
Research Intern, advised by *Dr. Lu Wang and Dr. Chaoyun Zhang*

- Enhance Root Cause Analysis in large-scale microservices systems through Reinforcement Learning. (*1 paper accepted by KDD 2023, third author; 1 paper accepted by FSE 2023, first author*)
- Focus on MCTS-LLM collaborative thought revision framework in LLMs. (*1 finding accepted by ACL 2024, first author*)

Tianjin University *Aug, 2020 - July, 2022*
Research Assistant, advised by *Dr. Minglai Shao and Dr. Wenjun Wang*

- Focus on multi-label Out-Of-Distribution detection on graphs from an evidential perspective. It is being conducted under the co-advisement of *Dr. Xujiang and Dr. Chen Zhao. (1 workshop accepted by AAAI 2022, first author)*
- Assist in completing a paper on dynamic community detection. *(1 paper accepted by IEEE Transactions on Cybernetics)*

SELECTED PUBLICATIONS

[1] **R. Ding**, C. Zhang, L. Wang, Y. Xu, M. Ma, Q. Lin, et al., "Everything of Thoughts: Defying the Law of Penrose Triangle for Thought Generation." *Findings of the Association for Computational Linguistics. (ACL 24)* [paper] [code]

[2] Rui Yang, **Ruomeng Ding**, Yong Lin, Huan Zhang, Tong Zhang, "Regularizing Hidden States Enables Learning Generalizable Reward Model for LLMs" *Neural Information Processing Systems. (NeurIPS 2024)* [paper] [code]

[3] **R. Ding**, C. Zhang, L. Wang, Y. Xu, M. Ma, Q. Lin, D. Zhang, et al., "Adaptive, Interpretable and Efficient Root Cause Analysis on Large-Scale Microservice Systems." *In Proceedings of the 31th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering. (ESEC/FSE 2023)* [paper]

[4] L. Wang, C. Zhang, **R. Ding**, Y. Xu, Q. Lin, D. Zhang, et al., "Root Cause Analysis for Microservice Systems via Hierarchical Reinforcement Learning from Human Feedback." *Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining. (KDD 23)* [paper]

[5] **R. Ding**, X. Zhao, C. Zhao, and M. Shao, "Detecting Multi-Label Out-of-Distribution Nodes on Graphs." *The 37th AAAI Conference on Artificial Intelligence, UDM Workshop, 2023.*

[6] Y. Chen, C. Zhang, M. Ma, Y. Liu, **R. Ding**, B. Li, S. He, S. Rajmohan, Q. Lin, and D. Zhang. "ImDiffusion: Imputed Diffusion Models for Multivariate Time Series Anomaly Detection." *(VLDB 23)* [paper] [code]

[7] T. Li, W. Wang, P. Jiao, Y. Wang, **R. Ding**, H. Wu, L. Pan, and D. Jin, "Exploring Temporal Community Structure via Network Embedding," in *IEEE Transactions on Cybernetics, 2022.* [paper]

SELECTED AWARDS AND SCHOLARSHIPS

National Scholarship, China, *2023*
Merit Scholarship, Georgia Institute of Technology (Shenzhen Campus), *2022*