Ran Qiu

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RESEARCH INTERESTS

My current research interests lie at the intersection of machine learning, reinforcement learning, large language models, and data attribution.

EDUCATION

University of Michigan   Ann Arbor, MI
B.S.E in Computer Science (GPA: 3.98/4.00)   Aug 2024 – present

Shanghai Jiao Tong University   Shanghai, China
B.S.E in Mechanical Engineering (GPA: 3.73/4.00)   Aug 2022 – present

RESEARCH EXPERIENCE

Research Assistant   Urbana–Champaign, IL, US
Jiaqi Ma's Lab, University of Illinois Urbana-Champaign   May 2025 – present
- Conducting reinforcement learning attribution for large language models using a lightweight RL environment (TinyZero) to analyze the contribution of training samples to policy updates.
- Implementing and evaluating both offline and online methods for tracing data influence in RLHF-style training.
- Designing experiments to compare attribution accuracy and computational efficiency across PPO and GRPO frameworks, aiming to improve interpretability and data selection in LLM training.

Research Assistant   Ann Arbor, MI, US
Honglak Lee's Lab, University of Michigan   Dec 2024 – present
- Co-developed *MIRAGE*, a benchmark suite for evaluating robustness of LLM agents under imperfect guidance, spanning simulated and real-world domains (navigation, cooking, gaming, and web tasks).
- Implemented procedurally generated environments and automated perturbation pipelines to systematically inject controlled guidance imperfections, ensuring all tasks remained solvable while revealing critical failure modes in LLM agents.
- Conducted large-scale evaluations of GPT-4 and open-source LLMs across ReAct, Plan-and-Solve, and Reflexion frameworks, identifying key robustness gaps.

Participation in Research Program   Shanghai, China
School of Marine and Architectural Engineering, Shanghai Jiao Tong University   Feb – Oct 2024
- Assisted in developing MATLAB-based numerical simulations for horizontal launch dynamics of powered natural supercavitating vehicles, incorporating coupled nonlinear motion equations and hydrodynamic models.

Undergraduate Research Project   Shanghai, China
Joint Institute, Shanghai Jiao Tong University   Feb – Aug 2024
- Explored machine learning approaches (XGBoost, utility function optimization, genetic algorithm) to predict properties of halide solid-state electrolytes and gain initial exposure to applied ML modeling.

PUBLICATIONS

- Fu, Yao, **Ran Qiu**, Xinhe Wang, Jacob Sansom, Sathvika Ayyappa Prabhu, Huijie Tang, Jaekyeom Kim, Sungryull Sohn, and Honglak Lee. "Beyond Blind Following: Evaluating Robustness of LLM Agents under Imperfect Guidance." *Proceedings of the COLM 2025 Workshop on AI Agents: Capabilities and Safety*, 2025. **Outstanding Paper Award.**
- Zou, Wang, Hanyu Gan, and **Ran Qiu**. "Numerical Study of Horizontal Launch Free Motions of Powered Natural Supercavitating Vehicles." *Journal of Fluids Engineering*, vol. 147, no. 6, 2025, p. 061403.

TEACHING EXPERIENCE

Teaching Assistant of Linear Algebra   Shanghai, China
Shanghai Jiao Tong University   Summer 2024
- Led biweekly review sessions and office hours, and guided small-group problem solving to strengthen conceptual understanding of linear algebra.
- Designed and evaluated assignments and quizzes, and provided individualized academic support.

Teaching Assistant of English Academic Writing   Shanghai, China
Shanghai Jiao Tong University   Fall 2023
- Mentored students on thesis development, argumentation, and critical analysis for academic writing.
- Provided detailed feedback on essays and presentations to improve clarity and logical flow.

HONORS

University Honors, University of Michigan   Fall 2024 & Winter 2025
Dean's List, University of Michigan   Fall 2024 & Winter 2025