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