

Yuxin (Shirley) Li

[E-mail](#) | [Webpage](#) | [GitHub](#) | [Google Scholar](#)

Computer Science, The Hong Kong University of Science and Technology

RESEARCH INTERESTS

I am interested in reasoning by examining models from two complementary perspectives: formal logic as a normative framework for how models should reason, and human cognition as a descriptive benchmark for how models tend to reason in practice. **My current research focuses on using formal languages (Lean4) to conduct structured and verifiable reasoning.** I investigate how formal structures can serve as scaffolds for scientific reasoning, including but not limited to mathematics and physics. I am also interested in multi-agent social behavior, including cognitive biases and collective opinions.

EDUCATION

The Hong Kong University of Science and Technology *Sep. 2022 - Jun. 2026(expected)*
BEng. in Computer Science *Advisor: Long Chen*

University of Illinois Urbana-Champaign *Aug. 2026(incoming) - Jun. 2028(expected)*
MS. in Computer Science *Advisor: Tong Zhang*

PUBLICATIONS

* indicates first authors

- [1] Dadi Guo*, Jiayu Liu*, Zhiyuan Fan, Zhitao He, Haoran Li, **Yuxin Li**, Yumeng Wang, Yi R. Fung
Mathematical proof as a litmus test: Revealing failure modes of advanced large reasoning models
[\[ACL 2026 \(Main\)\]](#)
- [2] **Yuxin Li***, Minghao Liu*, Ruida Wang*, Wenzhao Ji, Zhitao He, Rui Pan, Junming Huang, Tong Zhang, Yi R. Fung
Lean4Physics: Comprehensive Reasoning Framework for College-level Physics in Lean4
[\[ICLR 2026\]](#)
- [3] Ruida Wang*, **Yuxin Li***, Yi R. Fung, Tong Zhang
Let's Reason Formally: Natural-Formal Hybrid Reasoning Enhances LLM's Math Capability
[\[EMNLP 2025 \(Main\)\]](#)
- [4] Ruida Wang*, Rui Pan*, **Yuxin Li***, Jipeng Zhang, Yizhen Jia, Shizhe Diao, Renjie Pi, Junjie Hu, Tong Zhang
MA-LoT: Model-Collaboration Lean-based Long Chain-of-Thought Reasoning Enhances Formal Theorem Proving [\[ICML 2025\]](#)

SERVICES

Conference Reviewer: NeurIPs(2026), KSS (2025)

SKILLS & CERTIFICATIONS

Standard Tests: TOEFL 5.5/6 (110/120)

Technical Skills: Python, C++, Java, Scala, RISC-V, LaTeX.

Deep Learning Certification NVIDIA Deep Learning Institute

Member China Entrepreneur Network, HKUST