

Zhaoyu Li

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RESEARCH INTERESTS

AI for Mathematics · Large Language Models for Formal Theorem Proving & Verified Code Generation

EDUCATION

University of Toronto	Jan. 2023 – Present
<i>Ph.D. student in Computer Science, working with Prof. Xujie Si</i>	Toronto, ON, Canada
McGill University	Sep. 2021 – Dec. 2022
<i>Ph.D. student in Computer Science, working with Prof. Xujie Si</i>	Montreal, QC, Canada
Shanghai Jiao Tong University	Sep. 2017 – Jul. 2021
<i>B.Eng. in Computer Science (with Honors), ACM Class</i>	Shanghai, China

WORK EXPERIENCE

Meta FAIR	May. 2025 – Sep. 2025
<i>Research Scientist Intern (with Dr. Kaiyu Yang)</i>	New York, NY, USA
Meta FAIR	Sep. 2025 – Present
<i>Part-Time Student Researcher (with Dr. Kaiyu Yang)</i>	Toronto, ON, Canada

SELECTED PUBLICATIONS

(* denotes equal contribution.)

Euclid-Omni: A Unified Neuro-Symbolic Framework for Geometry Problem Solving	Preprint
<i>Zhaoyu Li*, Hangrui Bi*, Youyuan Zhang, Wenjie Ma, Zenan Li, Xujie Si, Kaiyu Yang</i>	
Learning to Disprove: Formal Counterexample Generation with Large Language Models	Preprint
<i>Zenan Li, Zhaoyu Li, Kaiyu Yang, Xiaoxing Ma, Zhendong Su</i>	
PyEuclid: A Versatile Formal Plane Geometry System in Python	CAV 2025
<i>Zhaoyu Li*, Hangrui Bi*, Jialiang Sun*, Zenan Li, Kaiyu Yang, Xujie Si</i>	
Proving Olympiad Inequalities by Synergizing LLMs and Symbolic Reasoning	ICLR 2025
<i>Zenan Li*, Zhaoyu Li*, Wen Tang, Xian Zhang, Yuan Yao, Xujie Si, Fan Yang, Kaiyu Yang, Xiaoxing Ma</i>	
LogiCity: Advancing Neuro-Symbolic AI with Abstract Urban Simulation	NeurIPS 2024
<i>Bowen Li, Zhaoyu Li, Qiwei Du, Jinqi Luo, Wenshan Wang, Yaqi Xie, Simon Stepputtis, Chen Wang, Katia P. Sycara, Pradeep Kumar Ravikumar, Alexander G. Gray, Xujie Si, Sebastian Scherer</i>	
Autoformalization with Symbolic Equivalence and Semantic Consistency	NeurIPS 2024
<i>Zenan Li, Yifan Wu, Zhaoyu Li, Xinming Wei, Xian Zhang, Fan Yang, Xiaoxing Ma</i>	
A Survey on Deep Learning for Theorem Proving	COLM 2024
<i>Zhaoyu Li, Jialiang Sun, Logan Murphy, Qidong Su, Zenan Li, Xian Zhang, Kaiyu Yang, Xujie Si</i>	
Autoformalizing Euclidean Geometry	ICML 2024
<i>Logan Murphy*, Kaiyu Yang*, Jialiang Sun, Zhaoyu Li, Anima Anandkumar, Xujie Si</i>	
G4SATBench: Benchmarking and Advancing SAT Solving with Graph Neural Networks	TMLR 2024
<i>Zhaoyu Li, Jinpei Guo, Xujie Si</i>	
Learning Reliable Logical Rules with SATNet	NeurIPS 2023
<i>Zhaoyu Li, Jinpei Guo, Yuhe Jiang, Xujie Si</i>	
NSNet: A General Neural Probabilistic Framework for Satisfiability Problems	NeurIPS 2022
<i>Zhaoyu Li, Xujie Si</i>	
Graph Contrastive Pre-training for Effective Theorem Reasoning	ICML SSL 2021, oral
<i>Zhaoyu Li, Binghong Chen, Xujie Si</i>	

SELECTED TALKS

PyEuclid: A Versatile Formal Plane Geometry System in Python <i>Modeling Reading Group, University of Toronto</i>	Apr. 2025 <i>Host: Prof. Marsha Chechik</i>
Deep Learning for Theorem Proving: Overview and Future Directions <i>Applied Deep Learning Research Group, NVIDIA</i>	Sep. 2024 <i>Host: Dr. Boris Ginsburg</i>
Deep Learning for Theorem Proving: Overview and Future Directions <i>Software Engineering Group, Nanjing University</i>	Aug. 2024 <i>Host: Prof. Xiaoxing Ma</i>
Some Notes on Neural Theorem Proving <i>Systems and Networking Research Group, Microsoft Research Asia</i>	Jul. 2023 <i>Host: Dr. Xian Zhang</i>
Deep Learning for Automated Reasoning: Methods and Applications <i>ReThinkLab, Shanghai Jiao Tong University</i>	Dec. 2022 <i>Host: Prof. Junchi Yan</i>

SELECTED AWARDS

C.C. Gotlieb (Kelly) Graduate Fellowship, Didi Graduate Student Award <i>University of Toronto</i>	2024, 2025
Max Stern Recruitment Fellowship, Graduate Excellence Fellowship <i>McGill University</i>	2021, 2022
China National Scholarship (Top 0.2%) <i>Shanghai Jiao Tong University</i>	2020

TEACHING EXPERIENCE

Teaching Assistant of CSC2547HS: Automated Reasoning with Machine Learning <i>University of Toronto</i>	2023, 2024
Guest Lecturer of MS326: Deep Learning and Its Applications <i>Shanghai Jiao Tong University</i>	2022
Teaching Assistant of MS108: Computer Architecture, MS110: Operating System <i>Shanghai Jiao Tong University</i>	2019, 2020

ACADEMIC SERVICE

Conference Reviewer: NeurIPS, ICLR, ICML, COLM
Journal Reviewer: TMLR, Nature Machine Intelligence
Workshop Program Committee Member: NeurIPS MATH-AI, ICLR Deep Learning for Code

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, MATLAB, Lean, Rocq
Frameworks & Libraries: PyTorch, TensorFlow, NumPy, SymPy