

Yiqi Zhao

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EDUCATION

University of Southern California

PhD Student in Computer Science

Los Angeles, USA
2023/08 - Present

- GPA: 4.0/4.0
- Supervisors: [Prof. Jyotirmoy V. Deshmukh](#); [Prof. Yue Wang](#)
- Viterbi School of Engineering Fellowship

University of Southern California

Master of Science in Computer Science

Los Angeles, USA
2023/08 - 2025/08

- GPA: 4.0/4.0

Vanderbilt University

Bachelor of Science, Magna Cum Laude

Nashville, USA
2020/08 - 2023/05

- GPA: 3.935/4.0
- Majors: Honors in Computer Science; Mathematics
- Minors: Electrical Engineering; Data Science
- Dean's List; Good Standing

RESEARCH INTERESTS

Robotics, Cyber-Physical Systems, Formal Methods, Systems and Control Theory

JOURNAL PAPERS (* INDICATES EQUAL CONTRIBUTION.)

[j4] **Yiqi Zhao***, Xinyi Yu*, Bardh Hoxha, Georgios Fainekos, Jyotirmoy V. Deshmukh, and Lars Lindemann. "STL-GO: Spatio-Temporal Logic with Graph Operators for Distributed Systems with Multiple Network Topologies". *ACM Transactions on Embedded Computing Systems; the ACM SIGBED International Conference on Embedded Software (EMSOFT 2025, ESWEEK)*, Taipei, 2025. [\[paper\]](#)

[j3] Xinyi Yu, **Yiqi Zhao**, Xiang Yin, and Lars Lindemann. "Signal Temporal Logic Control Synthesis among Uncontrollable Dynamic Agents with Conformal Prediction". *Automatica*. 2025. [\[paper\]](#) [\[codes\]](#) (Regular Paper.)

[j2] **Yiqi Zhao**, Emily Zhu, Bardh Hoxha, Georgios Fainekos, Jyotirmoy V. Deshmukh, Lars Lindemann. "Distributionally Robust Predictive Runtime Verification under Spatio-Temporal Logic Specifications". *ACM Transactions on Cyber-physical Systems*. 2025. [\[paper\]](#) [\[codes\]](#)

[j1] Ziyan An, **Yiqi Zhao**, Xuqing Gao, Ayan Mukhopadhyay, Meiyi Ma. "Formal Logic-Guided Harnessing Heterogeneous Fairness Rules in Smart Cities". *ACM Transactions on Cyber-physical Systems*. 2025. [\[paper\]](#)

CONFERENCE PAPERS

[c3] Anand Balakrishnan, Rohit Bernard, Shreeram Narayanan, Vidisha Kudalkar, **Yiqi Zhao**, Parinitha Nagaraja, Georgi Markov, Christof Budnik, Helmut Degen, Lars Lindemann, Jyotirmoy V. Deshmukh. "Safety Assurance for Autonomous Systems with Multiple Sensor Modalities". *The 22nd ACM/IEEE International Symposium on Formal Methods and Models for System Design (MEMOCODE)*, Raleigh, USA. 2024. [\[paper\]](#)

[c2] **Yiqi Zhao**, Bardh Hoxha, Georgios Fainekos, Jyotirmoy V. Deshmukh, and Lars Lindemann. "Robust Conformal Prediction for STL Runtime Verification under Distribution Shift". *The 15th ACM/IEEE International Conference on Cyber-Physical Systems*, Hong Kong, China. 2024. Best Paper Award Finalist. [\[paper\]](#) [\[codes\]](#)

[c1] **Yiqi Zhao**, Ziyan An, Xuqing Gao, Ayan Mukhopadhyay, Meiyi Ma. "Fairguard: Harness Logic-based Fairness Rules in Smart Cities". *The 8th ACM/IEEE Conference on Internet of Things Design and Implementation*, San Antonio, USA. 2023. [\[paper\]](#)

IN SUBMISSION (* INDICATES EQUAL CONTRIBUTION.)

[s2] **Yiqi Zhao***, Xinyi Yu*, Matteo Sesia, Jyotirmoy V. Deshmukh, and Lars Lindemann. "Conformal Predictive Programming for Chance Constrained Optimization". *Arxiv*, 2025. Currently under review in *Automatica*. [\[paper\]](#) [\[codes\]](#)

[s1] Lars Lindemann, **Yiqi Zhao**, Xinyi Yu, George J. Pappas, Jyotirmoy V. Deshmukh. "Formal Verification and Control with Conformal Prediction". *Arxiv*, 2024. *Currently under review in IEEE Control Systems Magazine*. [\[paper\]](#) [\[tutorial\]](#)

PREPRINTS

[p1] **Yiqi Zhao**, Ziyan An, Meiyi Ma, and Taylor Johnson. "EduSAT: A Pedagogical Tool for Theory and Applications of Boolean Satisfiability". *Arxiv*, 2023. [\[paper\]](#) [\[tool\]](#)

NON-AUTHORSHIP ACKNOWLEDGED CONTRIBUTIONS

[o2] Junyang Cai, Weimin Huang, Jyotirmoy V. Deshmukh, Lars Lindemann, Bistra Dilkina. "Neuro-Symbolic Acceleration of MILP Motion Planning with Temporal Logic and Chance Constraints". *Arxiv*, 2025. [\[paper\]](#) (Acknowledged for the help.)

[o1] Hanwen Liu, Shashank Giridhara, Ibrahim Sabek. "Conformal Prediction for Verifiable Learned Query Optimization". *Arxiv*, 2025. [\[paper\]](#) (Acknowledged for the support.)

WORK/TEACHING EXPERIENCE

Research and Development Intern, Toyota Research Institute of North America
Focus: Cyber-Physical Systems

Ann Arbor, USA
2025/05 - 2025/08

- Worked on Cyber-Physical Systems Research at the Future Research Department.

Research Assistant, University of Southern California

Los Angeles, USA

Affiliation: University of Southern California

2024/08 - 2025/05, 2025/05 - Now

- PhD Research and assistantship in advisors' research.

Grader of CS 4260 (Artificial Intelligence), Vanderbilt University

Nashville, USA

Advisors: Meiyi Ma, Daniel Moyer

2022/08 - 2023/05

- Graded students' homework and exams and held TA office hours regularly.

Application Development Intern, ADP

Roseland, USA

Affiliation: Global Product & Tech group

2022/06 - 2022/08

- Developed API for the Autopay Group.

SELECTED HONORS

ICCPs Best Paper Award Finalist

May. 2024

Awarded at the 15th ACM/IEEE International Conference on Cyber-Physical Systems for the paper "Robust Conformal Prediction for STL Runtime Verification under Distribution Shift".

Viterbi School of Engineering Fellowship

Aug. 2023

Awarded for selected incoming PhD students at Viterbi School of Engineering, USC.

VICE Award (Vanderbilt Institute for Surgery and Engineering Summer Fellowship)

2021

Awarded for the paid fellowship at the Vanderbilt Institute for Surgery and Engineering Summer Fellows Program.

ACADEMIC SERVICES

Journal Reviews for Computing, NAHS

Conference Reviews for ACC 2024, VMCAI 2024, CDC 2024, ICLR 2025, AISTATS 2025, HSCC 2025, L4DC 2025, ICCPS 2025, NEUS 2025, MECC 2025, ICRA 2026, AISTATS 2026, L4DC 2026.

Conference PC Member and Reviews for HSCC 2024 (Repeatability Evaluation), HSCC 2025 (Repeatability Evaluation), ICCPS 2025 (Posters and Demos).

Tutorial on Formal Verification and Control with Conformal Prediction at the CPS-IoT Week 2025 [[home-page](#)].
05/06/2025

SELECTED TALKS

The 15th ACM/IEEE International Conference on Cyber-Physical Systems

05/16/2024

The 43rd Southern California Control Workshop (with Xinyi Yu)

04/19/2024

The 8th ACM/IEEE Conference on Internet of Things Design and Implementation

May 2023

SKILLS

Programming Languages

Python, Javascript, C++, C, MATLAB, Java, SQL.
Mandarin Chinese (native), English