

# Yiqi Zhao

✉ [yiqizhao@usc.edu](mailto:yiqizhao@usc.edu) 🏠 [zhaoy37.github.io](https://zhaoy37.github.io) 🎓 [Google scholar](#)  
2638 Portland St., Sierra Apartments, Los Angeles, CA90007, USA

## EDUCATION

- 
- |   |                                       |
|---|---------------------------------------|
| <b>University of Southern California</b><br><i>PhD Student in Computer Science</i> <ul style="list-style-type: none"><li>• GPA: 4.0/4.0</li><li>• Supervisors: <a href="#">Prof. Jyotirmoy V. Deshmukh</a>; <a href="#">Prof. Lars Lindemann</a></li><li>• Viterbi School of Engineering Fellowship</li></ul> | Los Angeles, USA<br>2023/08 - Present |
| <b>Vanderbilt University</b><br><i>Bachelor of Science, Magna Cum Laude</i> <ul style="list-style-type: none"><li>• GPA: 3.935/4.0</li><li>• Majors: Honors in Computer Science; Mathematics</li><li>• Minors: Electrical Engineering; Data Science</li><li>• Dean's List; Good Standing</li></ul>            | Nashville, USA<br>2020/08 - 2023/05   |

## RESEARCH INTERESTS

---

Formal Methods, Cyber Physical System, Systems and Control Theory, Mathematical Optimization

## CONFERENCE PAPERS

- 
- [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**, Ziyang 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](#)]

## PREPRINTS

- 
- [p3] **Yiqi Zhao\***, Xinyi Yu\*, Jyotirmoy V. Deshmukh, and Lars Lindemann. "Conformal Predictive Programming for Chance Constrained Optimization". *Arxiv*, 2024. [[paper](#)] [[codes](#)] (\* indicates equal contribution.)
- [p2] Xinyi Yu, **Yiqi Zhao**, Xiang Yin, and Lars Lindemann. "Signal Temporal Logic Control Synthesis among Uncontrollable Dynamic Agents with Conformal Prediction". *Arxiv*, 2023. [[paper](#)] [[codes](#)]
- [p1] **Yiqi Zhao**, Ziyang An, Meiyi Ma, and Taylor Johnson. "EduSAT: A Pedagogical Tool for Theory and Applications of Boolean Satisfiability". *Arxiv*, 2023. [[paper](#)] [[tool](#)]

## RESEARCH EXPERIENCE

- 
- |  |                                       |
|--|---------------------------------------|
| <b>VIDA Lab, SAIDS Lab, University of Southern California</b><br><i>PhD Student, Advisors: <a href="#">Jyotirmoy V. Deshmukh</a>, <a href="#">Prof. Lars Lindemann</a></i> <ul style="list-style-type: none"><li>• Conformal Predictive Programming (CPP)<ul style="list-style-type: none"><li>– Proposed an algorithm for Chance Constrained Optimization (CCO) Problems via incorporating the recent developments of Conformal Prediction.</li></ul></li><li>• Robust STL Runtime Verification<ul style="list-style-type: none"><li>– Introduced Runtime Verification with Signal Temporal Logic (STL) using Conformal Prediction in instances of distribution shift from training to testing environment.</li></ul></li></ul> | Los Angeles, USA<br>2023/08 - Present |
| <b>Meiyi Ma's Group, Vanderbilt University</b><br><i>Research Assistant, Advisor: <a href="#">Meiyi Ma</a></i> <ul style="list-style-type: none"><li>• Fairguard for Smart City<ul style="list-style-type: none"><li>– Introduced Fairguard, a micro-level temporal logic-based approach for fair smart city design in complex temporal-spatial domains.</li></ul></li></ul>   | Nashville, USA<br>2021/11 - 2023/08   |
| <b>BAGL Lab, Vanderbilt Institute for Surgery and Engineering</b><br><i>Summer Fellow, Advisor: <a href="#">Jack Noble</a></i> <ul style="list-style-type: none"><li>• Ultrasound Image Processing with Machine Learning Techniques</li></ul>  | Nashville, USA<br>2021/06 - 2021/08   |

- Studied and practiced Image Segmentation Techniques with an existing U-Net Architecture.
- Focused on data preprocessing, cross validation, and outcome evaluations, etc.

## WORK EXPERIENCE

---

<b>Grader of CS 4260 (Artificial Intelligence), Vanderbilt University</b>	Nashville, USA
<i>Advisors: <a href="#">Meiyi Ma</a>, <a href="#">Daniel Moyer</a></i>	2022/08 - 2023/05
• Graded students' homework and exams and held TA office hours regularly.	
<b>Application Development Intern, ADP</b>	Roseland, USA
<i>Affiliation: Global Product &amp; Tech (GPT) group</i>	2022/06 - 2022/08
• Developed the Notification Replay API for the Autopay Group through an Agile Environment.	

## SELECTED HONORS

---

<b>ICCPs Best Paper Award Finalist</b>	May. 2024
<i>Awarded at the 15th ACM/IEEE International Conference on Cyber-Physical Systems for the paper "Robust Con- formal Prediction for STL Runtime Verification under Distribution Shift".</i>	
<b>Viterbi School of Engineering Fellowship</b>	Aug. 2023
<i>Awarded for selected incoming PhD students at Viterbi School of Engineering, USC.</i>	
<b>WISE Award (Vanderbilt Institute for Surgery and Engineering Summer Fellowship)</b>	2021
<i>Awarded for the paid fellowship at the Vanderbilt Institute for Surgery and Engineering Summer Fellows Program.</i>	

## ACADEMIC SERVICES

---

**Reviews** for Computing, HSCC 2024 (Repeatability Evaluation), ACC 2024, VMCAI 2024, CDC 2024.

**Organizer:** I organized a reading group on formal methods and safe learning-enabled components at USC.

## SELECTED TALKS

---

<b>The 15th ACM/IEEE International Conference on Cyber-Physical Systems</b>	05/16/2024
<b>The 43rd Southern California California Control Workshop</b>	04/19/2024
<b>The 8th ACM/IEEE Conference on Internet of Things Design and Implementation</b>	May 2023

## SKILLS

---

<b>Programming Languages</b>	Python, Javascript, C++, C, MATLAB, Java. Mandarin Chinese (native), English
------------------------------	---