

Yue Cao

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Employment

Syracuse University, Syracuse, NY *2024 Aug - Present*
Assistant Teaching Professor in the Department of Electrical Engineering and Computer Science

Education

Purdue University, West Lafayette, IN *2016 - 2024*
PhD in Electrical and Computer Engineering
Advisor: Prof. C. S. George Lee
Thesis: “[Towards Manipulator Task-Oriented Programming: Automating Behavior-Tree Configuration](#),”

Ohio State University, Columbus, OH *2014 - 2016*
M.S. in Electrical and Computer Engineering

Shanghai Jiao Tong University, Shanghai, China *2011 - 2015*
B.S. in Automation Engineering

Publication

Yue Cao, “GitHub Repository as Handbook, Jupyter Notebook as Report: A Format Redesign for the Electrical Engineering II Lab,” in *Proceedings of the Annual Conference and Exposition (Accepted)*, Charlotte, NC, 2026

Yue Cao and Jiamin Zhao, “Embedding Intelligence: Teaching Modern AI Implementation in a Raspberry Pi-Centric Laboratory Course,” in *Proceedings of the ASEE St. Lawrence Section Conference (Accepted)*, Ithaca, NY, 2026

Yue Cao, “[Large Language Models for Nodal Analysis in Circuits Education: An Evaluation](#),” in *Proceedings of the IEEE SoutheastCon*, Huntsville, AL, 2026

Yue Cao, “[Performance Evaluation of Whisper-Series Speech Transcription Models on Raspberry Pi](#),” in *Proceedings of the ACM/IEEE Symposium on Edge Computing – Edge Intelligence Workshop*, Arlington, VA, 2025

Yue Cao and C. S. George Lee, “Ground Manipulator Primitive Tasks to Executable Actions using Large Language Models,” in *Proceedings of the AAAI Fall Symposium on Unifying Representations for Robot Application Development*, Arlington, VA, 2023

Yue Cao and C. S. George Lee, “Robot Behavior-Tree-Based Task Generation with Large Language Models,” in *Proceedings of the AAAI Spring Symposium on Challenges Requiring the Combination of Machine Learning and Knowledge Engineering (AAAI-MAKE)*, San Francisco, CA, 2023.

Yue Cao and C. S. George Lee, “Behavior-Tree Embeddings for Robot Task-Level Knowledge,” in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Kyoto, Japan, 2022.

Haoan Wang, **Yue Cao**, Bilin Aksun Güvenç, Levent Güvenç, “MPC Based Automated Steering of a Low Speed Shuttle for Socially Acceptable Accident Avoidance,” in *Proceedings of the ASME Dynamic Systems and Control Conference (DSCC)*, Minneapolis, MN, 2016.

Teaching

Assistant Teaching Professor, Syracuse University, NY 2024 - Present

Courses:

SCN 147 – EE I: Circuits and Robots (Pre-College)	26
ELE 231 – Electrical Engineering Fundamentals	25F, 26F
ELE 292 – Linear Systems Laboratory	24F, 25S, 25F, 26F
ELE 251 – Fundamentals of Linear Systems	25S
CSE 398 – Embedded and Mobile Systems Laboratory	25S, 26S
CSE 400 – Intelligent Robotics	26S

Course Material Samples are available on:

<https://botyue.github.io/teaching.html>

Instructor, Purdue University, West Lafayette, IN 2016 - 2024

ECE 308 – Systems Simulation and Control Lab

Collaborate with **Prof. Shreyas Sundaram** to design curriculum.

Purdue Magoon Excellence in Teaching Award 2019

Selected by faculty and students to recognize graduate students who were exemplary in teaching.

Purdue Teaching Academy Graduate Teaching Award 2023

Selected by department from every 50 graduate teaching assistants.

Presentation

Poster, “Towards Manipulator Task-Oriented Programming: Automating Behavior-Tree Configuration”, at the *Northeast Robotics Colloquium (NERC)*, Ithaca, NY, 2025.

Oral Presentation, “Ground Manipulator Primitive Tasks to Executable Actions using Large Language Models”, as Late-Breaking Results at *the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, MI, 2023.

Oral Presentation, “Robot Behavior-Tree-Based Task Generation with Large Language Models”, at *the Purdue Robotics and Intelligent Systems Expo*, West Lafayette, IN, 2023.

Service/Outreach

Department Committee for Computer Science program ABET	2025-2026
Booth Host , Mircon Day at Syracuse University	2026
Event Coordinator , Syracuse School District Vex Robotics Tournament	2026
Booth Host , ECS College open house, ECS College showcase	2025-2026
Judge , <i>Purdue Undergraduate Research Conference</i>	2018, 2023
Demo , K-12 student outreach for Lego Robotics classes	2017 grant 2017, 2018, 2023

Other Awards

“Shared Competencies” Assignment Design Award, Syracuse University Center for Teaching and Learning Excellence	2026
Summer Institute for Technology-Enhanced Teaching and Learning, Syracuse University ITS	2026
Course Redesign Institute, Syracuse University Center for Teaching and Learning Excellence	2025
Purdue College of Engineering graduate conference travel grant	2023
Purdue Graduate School summer research grant	2017, 2018, 2023

Review

Reviewer , <i>IEEE Robotics and Automation Letters (RA-L)</i>	2026
Reviewer , <i>IEEE Int. Conf. Tools with Artificial Intelligence (ICTAI)</i>	2026
Reviewer , <i>IEEE Int. Conf. Systems, Man, and Cybernetics (SMC)</i>	2026
Reviewer , <i>IROS 2026</i>	2026
Reviewer , <i>IROS 2025 Workshop on Embodied AI and Robotics for Future Scientific Discovery</i>	2025
Reviewer , <i>RSS 2024 Workshop on Task Specification for General-Purpose Intelligent Robots</i>	2024

Reviewer , <i>ACL Rolling Review</i>	2024
Reviewer , in the Young Reviewers Program of the <i>IEEE Robotics and Automation Society (RAS)</i>	2023 - present
Reviewer , <i>IEEE International Conference on Robotics and Automation (ICRA)</i>	2023
Reviewer , <i>IEEE Robotics and Automation Letters (RA-L)</i>	2023
Reviewer , <i>IEEE-RAS International Conference on Humanoid Robots</i>	2023

Professional Experience

Graduate Researcher, Purdue University, West Lafayette, IN 2016 - 2024

with **Prof. C. S. George Lee**, at the Assistive Robotics Technology Laboratory

Focusing on utilizing the AI techniques to facilitate the intelligence of robot systems.

Researching on improving behavior-tree-based planning, including efficient task re-usage, autonomous generation of hierarchical task.

Researching on robot planning-to-acting transition, including action grounding of manipulator primitive tasks and reinforcement learning within precedence-constrained tasks.

Research Intern, Bosch Research and Technology Center, Shanghai, China 2016

Surveyed on the real-time 3-D human motion tracking using inertial sensors.

Graduate Researcher, Ohio State University, Columbus, OH 2015 - 2016

with **Prof. Levent Güvenc**, at the Automated Driving Lab.

Developed an approach to generate vehicle simulation trajectories based on OpenStreetMap.

Investigated the realization of autonomous driving on Ford Fusion hybrid vehicles.

Graduate Grader, Ohio State University, Columbus, OH 2015

with **Prof. Yuan F. Zheng**

Course: ECE 5463 – Introduction to Real-Time Robotics Systems.

Software Engineer Intern, Honeywell Security Group, Shanghai, China 2015

Function test for the Honeywell video storage team.

Undergraduate Researcher, Shanghai Jiao Tong University, China

with **Prof. Ning Li**, at the Key Lab of System Control and Information Processing

Model predictive controller design for HVAC systems.