

Qianwei (Robin) Wang

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EDUCATION

Princeton University, Princeton, NJ

Sep. 2026 – May 2031 (expected)

Ph.D. in Electrical and Computer Engineering • Advisor: Prof. Tom Silver • Gordon Wu Fellowship

University of Michigan, Ann Arbor, Ann Arbor, MI

Sep. 2023 – May 2026

B.S. in Computer Science with Honors • GPA: 3.92/4.00

RESEARCH INTERESTS

Robot learning and physical reasoning — building general physical-reasoning models that let robots plan over long horizons in everyday human environments, and making such robots useful for everyone.

EXPERIENCE

Machine Learning Engineer Intern, *Mondo Robotic*, Shenzhen, China

May 2026 – Aug. 2026

- Built a **data-driven spatial memory** for household humanoid robots, learning persistent object–place representations from robot interaction data rather than hand-tuned mapping heuristics.
- Integrated the memory into an **agentic framework** as a queryable long-horizon store, letting the planner ground open-ended household instructions in where objects have been seen and how scenes change over time.

Research Assistant, *Advanced Agent–Robotics Technology Lab*, CMU, Pittsburgh, PA

May 2025 – Present

Advisors: Prof. Katia Sycara, Dr. Yaqi Xie • CMU RISS Summer Scholar

- Developed **UniPred**, a neuro-symbolic world model unifying deep predicate invention with foundation models, learning symbolic abstractions for long-horizon manipulation from only a few demonstrations.
- Replaced hand-engineered predicate libraries with foundation-model-proposed candidates refined on demonstration data, enabling bilevel planning to generalize to unseen objects and longer horizons.

PUBLICATIONS

1. UniPred: Unifying Deep Predicate Invention with Foundation Models.

Qianwei Wang*, Bowen Li*, Zhanpeng Luo, Yifan Xu, Alexander Gray, Tom Silver, Sebastian Scherer, Katia Sycara, Yaqi Xie. *Under review*, 2026. [[project page](#)] [[arXiv](#)]

2. Point2Graph: An End-to-end Point Cloud-based 3D Open-Vocabulary Scene Graph for Robot Navigation.

Yifan Xu, Ziming Luo*, Qianwei Wang*, Vineet Kamat, Carol Menassa. *IEEE International Conference on Robotics and Automation (ICRA)*, 2025.

TECHNICAL SKILLS

Languages: Python, C/C++, MATLAB

Frameworks: PyTorch, ROS/ROS 2, OpenCV, Open3D, Eigen, Ceres, Gazebo

HONORS & AWARDS

- Gordon Y. S. Wu Fellowship, Princeton University, 2026 • CMU Robotics Institute Summer Scholar (RISS), 2025 • Michigan SURE Fellowship, 2024
- James B. Angell Scholar • University Honors (×2), University of Michigan • First Prize, Chinese Mathematics Competitions • Second Prize, RoboMaster University Championship (RMUC, hosted by DJI)