

YUYAN WANG

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EDUCATION

University of Virginia

Aug 2022 – May 2026

B.A. Computer Science, B.A. Applied Statistics (Data Science concentration), GPA: 3.98/4.0

Related Courses

AI, ML, Advanced Algorithms and Implementation, Experimental Robotics, Applied Linear Models, Applied Linear Algebra, Multi-Robot Navigation

RESEARCH EXPERIENCE

Physically-Grounded Human-AI Collaboration – ICLR 2026 Pending

Jan 2025 – Present

Supervisor: Yen-Ling Kuo | Learning and Interactive Robotics Lab, University of Virginia

- Assisted to build [Moving Out](#), a two-player environment for physically grounded human-AI collaboration.
- Trained embodied agents to adapt actions to physical dynamics and constraints of environment.
- Trained environment using BenchMARL library and apply RL algorithm for effective learning.
- Designed a user-friendly GUI to streamline the process of collecting feedback from volunteers who play the game with agents (trained models).

Observational Learning in Electric Vehicle Adoption

Dec 2024 – Aug 2025

Supervisor: Daisy Dai (Purdue University), Natasha Zhang Foutz (UVA)

- Processed and analyzed large-scale mobile location data (X-Mode Social) and applied clustering algorithms (ex. Infostop, DBSCAN in scikit-learn) to identify visibility patterns of EV charging stations.
- Supported researchers to investigate how the entry of new EV charging stations in Seattle impacts electric vehicle adoption via increased visibility in 2019.

Improving Teleoperation for Robotic Manipulation Tasks

Jan 2024 – Apr 2025

Supervisor: Yen-Ling Kuo | Learning and Interactive Robotics Lab, University of Virginia

- Implemented teleoperation of the Franka robot arm using a Meta Quest VR controller and space mouse for diverse manipulation tasks in both physical and simulated (Panda) environments through ROS2.
 - Established teleoperation setup now supports 2–3 ongoing projects in the lab, facilitating efficient and consistent experimentation across multiple research directions.
 - Designed and printed 3D CAD models for Franka Robot Arm components with Fusion 360 software.
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ACADEMIC PROJECT

NASA Lunabotics Challenge – Mechatronics and Robotics Society at UVA

Aug 2023 – Present

- Participated in NASA Lunabotics competition; our team represented UVA ranked 5th out of 68 in 2025.
- Integrating ROS2 navigation stack (nav2) to explore SLAM-based localization and path planning for travel autonomy on regolith surface.
- Designing actions and developing programs enable robot to achieve excavating and dumping autonomy.
- Established the connection and information transfer between the control station (Linux) and robot modular system (NVIDIA Jetson) via a router.

Multi-Robot Navigation Course Project – ICRA 2026 Pending

Mar – Sep 2025

Supervisor: Rohan Chandra | LLM-Guided Reinforcement Learning for Decentralized Autonomous Driving

- Investigated integration of small, locally deployable Large Language Models with reinforcement learning for autonomous highway driving.
- Designed and evaluated RL-only, LLM-only, and hybrid RL+LLM reward shaping frameworks across multi-agent highway and merging scenarios.
- Conducted a case study demonstrating how a Large Language Model could improve reward systems to guide reinforcement learning, showing a potential to more efficient training.

Experimental Robotics Course Project

Aug 2024 – Dec 2024

Supervisor: Tomonari Furukawa

- Led a group to develop localization and map-based teleoperation on a robot with ROS and Rtabmap.
- Implemented real-time point cloud transmission for remote teleoperation, autonomous environment mapping, and navigation through map-based destination assignment.

INTERNSHIP

Website Coordinator

June – July 2025

TRTCLE, Corp. | Remote

- Built custom web scrapers to automate data collection and manage user records, reducing manual effort and accelerating future data-driven processes.
- Initiated research of AI tools to extract structured information from unstructured PDF files, streamlining content ingestion and automation workflows.
- Analyzed participant and speaker feedback to evaluate program effectiveness and recommend improvements.

ACTIVITIES

Badminton Club, University of Virginia

Aug 2022 – Present

- Actively trained and competed as a member of the club's competitive team, participating in tournaments.
- The team represented UVA earned 2nd place at 2024 Yonex Eastern Collegiate Mid-Atlantic Conference.
- Helped organize open-gym events that attract students from diverse majors, backgrounds, and levels.

Buford Middle School Engineering Mentor

Aug – Dec 2023

- Mentored middle school students at Buford Middle School in Engineering classes.
- Guided students on hands-on STEM projects, such as writing code to control circuit boards and light bulb.
- Shared knowledge and enthusiasm with students to support academic development in STEM subjects and reinforced personal commitment to continued study and engagement in STEM.

TECHNICAL SKILLS

Programming & Systems

Python, C++, SQL, R, Bash, Linux, GitHub, Docker

Machine Learning & AI

PyTorch, TensorFlow, Scikit-learn, Ollama

Additional Tools

Pandas, NumPy, AWS CLI, ROS2, Rtabmap, Gazebo, Fusion 360

