Jay Knight

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EDUCATION

University of Nevada, Reno

B.S. Computer Science and Engineering | *Minor in Mathematics and Robotics* *May 2026*

M.S. Robotics | *Focus in Socially Assistive Robotics* *May 2027*

SKILLS

MacOS, Linux, Windows | ROS/ROS2, C/C++, Python, .NET Core, NodeJS, Haskell, Bash, Git, Wordpress | AutoCAD, Blender | Research, Web Development, Azure Deployments, Systems Administration | Project Management, Interdisciplinary Collaboration, Technical Writing, Professional Presentation

EXPERIENCE

Undergraduate Researcher | University of Nevada, Reno *Aug 2023 - Present*

- Collaborated with different teams focusing on work contributing to the AI Institute for Exceptional Education and the IUSE student-centered personalized learning framework.
- Designed studies and software, worked on personalized robot faces in children's spaces.
- Developed a web app for facilitating a study on robotics education, featuring simulation, real-time feedback, and training of AI tools to accelerate students' comprehension in the robotics field.
- Implemented robot/device drivers on embedded systems to reduce the cost of robots for students learning robotics/Robot Operating System in community college.

REU Undergraduate Researcher | University of Nevada, Reno *Jun 2023 - Aug 2023*

- Researched and devised methods for generally applicable and architectural solutions for human-robot joint tasks.
- Developed an interruption architecture utilizing a world-state representation as well as a joint-task implementation on a PR2 robot targeting joint tasks in a home or kitchen setting.

K -12 Robotics Education Assistant | Nevada Robotics | Reno, NV *Nov 2021 - Aug 2024*

- Sustained the statewide robotics lending library for K-12 teachers. Facilitated robotics training programs across Reno, Elko, and Las Vegas, NV.
- Modernized warehouse inventory system to bolster new library services as well as upkeep existing services.

PUBLICATIONS

Design Activity for Personalized Robot Faces: Evaluating Child Responses To Customizable Expressive Faces | Submitted | IEEE/ACM International Conference on Human-Robot Interaction 2025

Architectural Solution for Tightly-Coupled Robot Collaborative Tasks | Submitted | International Conference on Intelligent Robots and Systems 2024

PROJECTS

HomeLab | Providing streaming services for personal use and low-latency remote desktop streaming to virtual machines for remote development, and system administration tasks.

Robot Restoration | Diagnosing, maintaining, and repairing robots in the UNR Robotics Center, including *PR2*, *Quori*, and *Misty II*.

LEADERSHIP

UNR Robotics Club | President, Co-Founder *Dec 2022 - May 2024*

- Secured $10k in robotics education and team development grants for club success
- Created a robotics community resource to Reno K-12 competitive teams

FBLA Nevada State Champion | Mobile Application Development *May 2018*

- Collaborated with team members to develop a social media application for selling second hand belongings, similar to Facebook Marketplace.
- Developed a backend REST API for accounts management and user posts as well as moderation dashboards using .NET Core 4.1.