

SEAN O'CONNOR

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EDUCATION

BOSTON UNIVERSITY
Master of Science in Computer Engineering

BOSTON, MA
Expected May 2027

BUCKNELL UNIVERSITY
Bachelor of Science in Computer Science and Engineering, Honors
Engineering GPA: 3.92/4.0 • Overall GPA: 3.67/4.0 • Dean's List: Seven Semesters

LEWISBURG, PA
May 2026

PUBLICATIONS

First Author, IEEE International Conference on Robot & Human Interactive Communication (RO-MAN)

- O'Connor, S. & Perrone, L.F. "A Web-Based Wizard-of-Oz Platform for Collaborative and Reproducible HRI Research" *IEEE RO-MAN 2025*, Eindhoven, The Netherlands
- O'Connor, S. & Perrone, L.F. "HRISudio: A Framework for Wizard-of-Oz Experiments in HRI Studies" *IEEE RO-MAN 2024*, Pasadena, CA
- O'Connor, S. "A Web-Based Wizard-of-Oz Platform for Collaborative and Reproducible HRI Research" *Bachelor's Honors Thesis*, Bucknell University, 2026

RESEARCH EXPERIENCE

BUCKNELL UNIVERSITY
Human-Robot Interaction Researcher

LEWISBURG, PA
Jan 2023 – May 2026

- Published 2 first-author papers at IEEE RO-MAN (2024, 2025) on HRISudio, a web-based Wizard-of-Oz platform enabling reproducible HRI studies across multiple robot platforms
- Completed honors thesis evaluating HRISudio via pilot study: achieved 100% design fidelity and 96.7 execution reliability vs. 66.7 baseline; SUS score 76.7 vs. 59.2 for Choregraphe
- Architected modular plugin system with WebSocket teleoperation and RESTful API integrating ROS for NAO, Pepper, and custom robots

PROFESSIONAL EXPERIENCE

RIVERHEAD RACEWAY
Software Developer

RIVERHEAD, NY
Oct 2020 – May 2026

- Architected and deployed full-stack real-time statistics platform serving 1500+ concurrent users and 250k+ monthly visitors using Next.js, TypeScript, PostgreSQL, and Docker
- Designed and implemented RESTful APIs for mobile applications and third-party integrations, processing 10M+ API requests monthly
- Built automated CI/CD pipelines with GitHub Actions and monitoring systems, maintaining 99.9% uptime across racing season

BUCKNELL UNIVERSITY
Teaching Assistant – Software Engineering & Engineering Design

LEWISBURG, PA
Aug 2023 – May 2026

- Mentored 150+ students across software engineering, design patterns, and embedded systems (Arduino, microcontrollers)
- Developed automated testing frameworks and grading tools, improving learning outcomes while streamlining assessment processes

SELECTED PROJECTS

HRISudio Research Platform

Next.js/TypeScript/ROS

- Full-stack web application for managing HRI experiments with WebSocket robot control, role-based access, and comprehensive data logging for reproducibility

Autonomous Vehicle Control – Chem-E-Car Competition

C++/Arduino

- Led 15-member team; implemented embedded control system with real-time sensor fusion achieving ± 10 cm precision at AIChE National Competition (2nd place, 2024)

TECHNICAL SKILLS

Robotics & AI: ROS/ROS2, PyTorch, Weights & Biases, HuggingFace Transformers, OpenCV, Gazebo, NAO/Pepper SDK, Wizard-of-Oz Methodology, Computer Vision

Embedded Systems: C/C++, Arduino, Raspberry Pi, I2C/SPI Protocols, Real-time Control, Finite State Machines, Sensor Integration

Software Engineering: Python, JavaScript/TypeScript, Git/GitHub, Docker, PostgreSQL, Next.js, React, Node.js, REST APIs

Research Tools: MATLAB, R, LaTeX, Statistical Analysis, Experimental Design, Data Visualization, Jupyter