

JOHN LYLE

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EDUCATION

The University of Texas at Austin	Master of Science, Mechanical Engineering Graduate Research Assistant, Nuclear Robotics Group	May 2026
The University of Texas at Austin	Bachelor of Science, Mechanical Engineering Concentration: Robotics and Mechatronics Overall GPA: 3.77	May 2025

EXPERIENCE

Nuclear Robotics Group, The University of Texas at Austin – *Graduate Research Assistant* January 2024 – Present

- Implemented computer-vision pose detection of helmets to approximate head gaze and increase robot safety awareness
- Developed and deployed a docker container across multiple robots to implement SLAM and human pose detection
- Created virtual mock robots to serve as a testing pipeline for ROS2 and mixed reality integration functionality
- Designed and implemented an RViz based GUI for a task planning pipeline to decrease necessary technical expertise of user
- Implemented eye-gaze selection using a HoloLens 2 and Unity for improved human-robot collaborative task completion

Samsung Austin Semiconductor – *Controls Engineering Intern* May 2024 – August 2024

- Designed and implemented control logic for redundant sensor usage in HVAC processes to improve uptime by 5%
- Identified control logic errors based off operator feedback and created a solution using ladder logic in Siemens STEP 7
- Created and performed an audit plan for verifying PLC panel installation prior to initial factory startup

Contoro Robotics – *Robotics Engineering Co-Op* May 2023 – December 2023

- Programmed a ROS2 interface in C++ to communicate with a haptic feedback teleoperation robot using impedance control
- Created a test fixture to evaluate torque bandwidth and positional hysteresis of a Bowden cable actuator
- Prototyped a custom handheld controller with one analog and three digital inputs using analog to digital signal processing
- Fabricated a safety control box and light curtain system to maintain a safe operation region surrounding an industrial robot
- Redesigned control box and robot stand to reduce footprint and cable clutter using sheet metal design in SOLIDWORKS

Texas Inventionworks, The University of Texas at Austin – *Student Associate* January 2023 – January 2025

- Assisted and advised students on designing and manufacturing projects such as concrete bowling balls, drones, and RC cars
- Developed a new training course for manufacturing a ring on the lathe to increase student confidence and use of machines

RadLab, The University of Texas at Austin – *Undergraduate Research Assistant* June 2022 – April 2023

- Updated and revamped C++ code for an Arduino system to meet new design requirements and safe operation standards
- Prototyped a 3D printed alternative to a locking mechanism lowering costs of that part by 90%
- Identified and remedied design flaws resulting in four times higher pressure ratings and savings of \$500 per sampler

LEADERSHIP EXPERIENCE AND ACTIVITIES

American Society of Mechanical Engineer – *Vice President, External Affairs Officer* Fall 2021 – Spring 2024

- Direct a team of 15 officers to host academic, community service, professional, and social events for 900+ student members

AWARDS

- Outstanding Student Organization Award (ASME) - *The University of Texas at Austin, Tower Awards*
- Best Service Organization (ASME) – *The University of Texas at Austin, Swing Out Awards*

SKILLS

Manufacturing Methods: CNC/Manual Mill, Lathe, Laser Cutter, Sheet Metal DFM, Injection Molding, FDM/SLA 3D Printing

Programming Languages: Python, C++, ROS2, MATLAB, Julia, C#, Ladder Logic

Software: SolidWorks, Fusion 360, Onshape, Unity, Microsoft Office Suite

Electronics: Soldering, SMD Rework, Circuit Design, Circuit Analysis

Operating Systems and Microcontroller Platforms: Linux, Windows, Arduino, Raspberry Pi, NVIDIA Jetson