

# JOHN LYLE

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## EDUCATION

<b>The University of Texas at Austin</b>	Master of Science, Mechanical Engineering Graduate Research Assistant, Nuclear Robotics Group	May 2026
<b>The University of Texas at Austin</b>	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
- 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
- Worked with a team to design and produce a fleet of wireless gas samplers to track emissions from nuclear weapons testing
- 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