JOHN LYLE

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EDUCATION

The University of Texas at Austin — Master of Science, Mechanical Engineering — May 2026
Graduate Research Assistant, Nuclear Robotics Group

The University of Texas at Austin — Bachelor of Science, Mechanical Engineering — May 2025
Concentration: Robotics and Mechatronics
Overall GPA: 3.77

EXPERIENCE

Nuclear Robotics Group, The University of Texas at Austin – *Graduate Research Assistant* — January 2024 – Present
- Designed a cross-platform software system for collecting sensor data streams to perform a human robot interaction study
- Developed and deployed a Docker container across multiple robots to implement SLAM and a navigation framework
- 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