

# Logan Boswell

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## EDUCATION

**Northwestern University**  
*Master of Science in Robotics*

**Evanston, IL**  
Expected: December 2025

**Georgia Institute of Technology**  
*Bachelor of Science in Mechanical Engineering (Highest Honors)*  
Concentration in Automation and Robotics

**Atlanta, GA**  
May 2024

## EXPERIENCE

### GrayMatter Robotics

Robotics Engineering Intern

**Carson, CA**  
Jun 2025 - Present

- Automating clear acrylic surface finishing through wet sanding and polishing with FANUC M-710 robots
- Extending Dockerized ROS/ROS2 packages using C++ and Python to support high-resolution camera inspection
- Optimizing finishing process parameters to remove scratches and defects while minimizing distortions

### Georgia Tech Research Institute

Student Assistant - Part Time

**Smyrna, GA**  
Jan - May 2024

- Collaborated with electrical engineers to design housings and mounts for RF systems using SolidWorks
- Operated mills, water jets, and sheet metal folders to fabricate components for electro-mechanical systems

### Chick-fil-A Corporate Support Center

Equipment and Systems Engineering Co-Op

**Atlanta, GA**  
Jan 2022 - Aug 2023

- Developed code libraries using Python, C++, and Git for an automated frying mechatronic system
- Modeled an electric heater in SolidWorks to meet strict size and watt density specifications
- Created a user-friendly GUI with Python and PyQt5 to streamline operation of an automated frying system

## PROJECTS

### Cable-Driven Parallel Robot (In Progress)

Spring, Fall 2025

- Currently designing a planar cable-driven parallel robot in Onshape for underwater applications
- Implementing low-level motor control in C++ with a Teensy 4.1 and ODrive S1 drivers over a CAN bus
- Developing a ROS2 package for communicating with the microcontroller and operating the system

### Ping Pong Robot from Scratch

Winter 2025

- Designed and built a 3-wheeled omnidirectional robot using Onshape and rapid prototyping methods
- Developed a ROS2 package in C++ for operating the robot and integrating kinematics with computer vision
- Utilized OpenCV, AprilTags, and a RealSense camera for ping pong ball object detection and tracking

### 7-DOF Pool-Playing Robot

Fall 2024

- Collaborated with a team of 5 to develop a Python ROS2 package for a Franka Panda arm to play a game of pool
- Wrote a Python ROS2 API wrapper to plan and execute trajectories using MoveIt2
- Modeled and printed custom pool cues in Onshape to achieve a better fit with the Franka gripper

### Propeller-Driven Balance Beam Control System

Fall 2023

- Guided a team of 4 to design two PID controllers to balance a ball in the center of a beam and reject disturbances
- Built a testing setup equipped with a microcontroller, drone motors, ESCs, an IMU, and a linear potentiometer
- Wrote code in C++ to incorporate PID controllers for stabilizing an inherently unstable physical system

## SKILLS

**Robotics:** ROS/ROS2, Control Systems, Embedded Systems, MoveIt, Nav2, OpenCV, RVIZ, Gazebo

**Software:** C++, Python, C, Embedded C, MATLAB/Simulink, LabVIEW, Linux, Git, CMake, Docker, Unit Testing

**Hardware:** SolidWorks/NX/Onshape, EagleCAD, Machining, 3D Printing, Soldering, Microcontrollers, FEA