

# 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

**Georgia Tech Research Institute**  
Student Assistant - Part Time

**Smyrna, GA**

Jan - May 2024

- Provided mechanical design and rapid prototyping support to various projects involving radar systems
- Designed, machined, and assembled housings, fixtures, and mounts for complex electronic systems

**Chick-fil-A Corporate Support Center**

**Atlanta, GA**

Equipment and Systems Engineering Co-Op

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 GUI using Python and PyQt5 to increase ease of operation of automated frying system

## PROJECTS

**Ping Pong Robot from Scratch (in progress)**

Winter 2025

- Designing and building an omnidirectional robot capable for returning ping pong balls to a player
- Developing a ROS2 package in C++ and Python for identifying balls and moving on the table appropriately
- Utilizing the YOLOv8 deep learning model for ping pong ball object detection

**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 so the robot could more easily grip them

**Mobile Manipulation Pick and Place with KUKA youBot**

Fall 2024

- Simulated a pick and place task of a youBot by generating a reference trajectory based on modern screw theory
- Implemented a feed forward + PI controller to minimize error between actual trajectory and reference trajectory
- Performed physical simulation using an ODE and displayed system in CoppeliaSim

**Differential-Drive Car from Scratch**

Spring 2024

- Led team of 2 to design and build a car capable of following a line or being controlled by an RC remote
- Create a system model in SolidWorks and manufactured custom parts through rapid prototyping
- Implemented a PID controller in LabVIEW for following a line and steering via RC remote

**Propeller-Driven Balance Beam Control System**

Fall 2023

- Worked with team of 4 to design two PID controllers to balance a ball in the center of a beam
- Built a testing setup equipped with drone motors, ESCs, an IMU, and a linear potentiometer
- Wrote code in C++ to apply PID controllers to the unstable physical system

## SKILLS

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

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

**Hardware:** SolidWorks/Inventor/NX/Onshape, Rapid Prototyping, Soldering, Mechatronics, Microcontrollers