Ian Allen Ihrig

Atlanta, Georgia • 404.226.1969 • iihrig6622@gmail.com • www.linkedin.com/in/ian-ihrig/

EDUCATION

Georgia Institute of Technology, College of Engineering — **Atlanta, Georgia**

Master of Science in Mechanical Engineering — Aug. 2025 - May 2026

- Specialized focus in Design & Automation, Robotics, and Control — **GPA: 4.0**

Bachelor of Science in Mechanical Engineering — Aug. 2021 - May 2025

- Graduated with Highest Honors, Full-Tuition Academic Scholar (Zell Miller Scholarship) — **GPA: 3.94**

EXPERIENCE

SLIP ROBOTICS — **Norcross, Georgia**

Mechanical Engineering Intern — May 2025 – Aug. 2025

- Led design and field implementation of a swappable battery retrofit across a high-profile customer's SlipBot fleet, reducing per-bot lifetime maintenance costs by 50.6%, totaling $155,846 in fleet-wide savings and notably improving reliability.
- Developed and validated rework procedures for SlipBot battery upgrades, including custom drill jigs, detailed instructions, and sourcing plans; reduced yearly battery swap labor time by 37% and improved serviceability across the entire fleet.
- Re-engineered a proof-of-concept Rack Attachment into a manufacturable MVP for current SlipBot, emphasizing DFM through modular panels, locating pins, and tab-slot joints; delivered a fully specified, prototype-ready design for fabrication

SLIP ROBOTICS — **Norcross, Georgia**

Mechanical Engineering Intern — May 2024 – Aug. 2024

- Developed a fan-cooled motor retrofit to replace a high-failure legacy motor, enabling seamless integration into existing chassis architecture and resulting in reduced lifetime cost, enhanced cooling performance, and greater field reliability.
- Selected motor, component, and machined-part vendors based on cost, lead time, and quality to align with company goals; coordinated feedback and rapid iterations to meet tight production deadlines and support urgent field replacements.
- Led redesign of swappable battery charging components, eliminating electrical arcing and enhancing safety standards.
- Diagnosed Mecanum wheel issues through QA testing, identifying 4 failure modes that informed design improvements.

Flowers Invention Studio — **Atlanta, Georgia**

Prototyping Instructor — Sep. 2022 – May 2025

- Conducted training sessions in advanced prototyping techniques, including water jetting, SLS printing, and laser cutting.
- Gained hands-on proficiency in project development, precise tool operation, and strict adherence to tool safety protocols.
- Assisted with 50+ Georgia Tech student prototypes as a project consultant, guiding students through project fabrication.

RoboJackets — **Atlanta, Georgia**

Combat Robotics - Team Member — Sep. 2022 – May 2023

- Developed technical proficiency in machining strategies to optimize precision, efficiency, and post-manufacturing needs.
- Designed and fabricated drivetrain components for a unique modular combat robot using waterjets, mills, and lathes.

PROJECTS

ME-2110 Robotics Project — **Atlanta, Georgia**

Team Member — Aug. 2023 – Dec. 2023

- Developed a fully autonomous robot with mechatronic actuators and sensors to successfully perform five dynamic tasks.
- Led a team of four to ensure the robot met the competition's technical specifications and performance requirements.
- Achieved 2nd out of 65 teams in a design review, recognized for the uniqueness and innovative engineering of our robot.

Georgia Tech VIP Program - The Robot Collective — **Atlanta, Georgia**

Vehicle Development Team — Aug. 2022 – Dec. 2022

- Designed and prototyped an innovative claw mechanism integral to the autonomous robots, enabling precise object manipulation, including grabbing and transporting blocks, thereby expanding the range of tasks the robots could perform.
- Aided in replicating Georgia Tech's Robotarium, a swarm robotics research platform, for the purposes and goals of the VIP.

SKILLS & INTERESTS

Technical: SolidWorks, NX, Additive Manufacturing, DFM, Rapid Prototyping, GD&T, Circuitry, MATLAB, Java

Coursework: Machine Design, Dynamics of Rigid Bodies, Mechanics of Deformable Bodies, Thermodynamics, Fluid Mechanics, Numerical Methods, Differential Equations, Circuit & Electronics, Engineering Graphics

Affiliations: American Society of Mechanical Engineers, Pi Tau Sigma Honor's Society, Phi Gamma Delta Fraternity

Interests: DIY Product Design, Hands-on Fabrication, DnD, Sci-fi Worldbuilding, Experimental Cooking, Basketball