

Parker Ferrer

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EDUCATION

University of Georgia, Morehead Honors College

Expected December 2027; GPA: 3.83/4.00

B.S. Mechanical Engineering

B.S. Electrical & Electronics Engineering

Foundation Fellowship Class of 2028: Premier UGA undergraduate academic scholarship (25/~16,000 students)

TECHNICAL SKILLS

Software: CAD (SolidWorks [*CSWA Certified*], OnShape, Creo, Inventor, AutoCAD, Fusion 360.), KiCAD

Tools: CNC Mill/Router/Lathe, Manual Mill/Lathe, 3D Printer, Waterjet, Laser Cutter, Saws (Table, Miter, Band)

Programming: Python, Java, C++ (Arduino IDE), MATLAB

WORK EXPERIENCE

UGA Fabrication Lab & Machine Shop

Athens, GA

Student Shop Technician

August 2025 – Present

- Troubleshoot and repair mills, routers, waterjets, and other equipment while training students in operating them.
- Assist students by refining their designs for manufacturability and enabling electro-mechanical integration.
- Collaborate with faculty to design and manufacture custom tools and research equipment, providing design feedback, producing CAD models, and delivering fully fabricated, functional assemblies.

ERMCO Power Partners

Athens, GA

Continuous Improvement Intern

May 2025 – August 2025

- Advanced quality-control automation via computer vision by analyzing and labeling >13,000 components, troubleshooting system integration, and coordinating with developers to refine algorithms and implementation.
- Designed, fabricated, and tested three iterations of passive, noninvasive alignment guides that improved transformer rotation consistency for automated vision inspection, achieving $\pm 3^\circ$ accuracy on >95% of units.
- Redesigned coil oven transport carts with V-groove wheel and rail systems, producing CAD drawings for fabrication and validating configurations that informed proposals to increase line efficiency and reduce handling variability.

AutomationDirect.com

Cumming, GA

Engineering Design Intern

June 2023 – August 2024

- Designed and tested a range of industrial automation and control demonstrations to showcase products.
- Spearheaded the mechanical development of a novel large-format ($>4\text{ m}^3$) 3D printer by designing the full superstructure, stepper-driven cartesian motion system, segmented heated build plate, and electrical enclosure.
- Engineered the printer's custom electrical system: authored wiring diagrams, implemented 24V/48V/220V power distribution, and integrated stepper drivers, heaters, safety relays, and sensor/controls communication.

PROJECTS & LEADERSHIP

UGA Institute of Electrical and Electronics Engineers

Athens, GA

Hardware Competition Mechanical Team Lead

September 2024 – Present

- Lead a 10-member interdisciplinary team in the full development of an autonomous competition robot, coordinating mechanical, electrical, and programming subteams to integrate designs and deliver a fully-functional system.
- Drive the creation and refinement of the CAD model, iterating mechanical layouts and mechanisms through multiple design cycles and directing integration/testing to balance consistency while meeting project deadlines.

UGA Robotics Club, 12lb Battlebot

Athens, GA

Mechanical Team Member

June 2024 – Present

- Leading design and development of the drivetrain and internal chassis, creating detailed CAD assemblies, machining drawings, and a modular layout to enable reliable performance and rapid maintenance.
- Engineering the structure to withstand high-impact loads while staying within the 12-lb weight limit, optimizing geometry and material selection while supporting complex fabrication and iterative testing to validate durability.

UGA Cultivate Lab

Athens, GA

Undergraduate Researcher

September 2024 – August 2025

- Rapidly prototyped a robotic guitar for adaptive instrumentation, delivering 4 iterations to achieve consistent servo-driven strumming within 3 weeks including CAD and fabricating precise components.
- Published & presented at ASEE 2025 Annual Conference "*DeSimone, W. P., & Ferrer, P. G., & Bork, S. J. (2025, June), Bridging the Gap: Autoethnographic Insights into Project-Based Learning in Electrical Engineering*"