

Giovanni Faiella

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Work Authorization: US Citizen, EU Citizen

EDUCATION

Florida State University
B.S. Mechanical Engineering
FSU GPA: 3.78

Tallahassee, FL
Expected Graduation: Spring 2028

Relevant Coursework: Fluid Mechanics, Thermodynamics, Engineering Design Methods, Dynamic Systems and Vibrations.

Palm Beach State College
Associate of Arts

Palm Beach County, FL
May 2025

SKILLS

CAD & Drafting: SOLIDWORKS: part and assembly modeling, dimensioned drawings, exploded views, BOMs.

Technical: MS Office (Proficient) Python, MATLAB (data analysis), C++ (Beginner), AI-assisted development (LLM tools).

Languages: Fluent in English, Portuguese, Italian, and Spanish.

EXPERIENCE

RTHM Lab, Florida State University

May 2026 – Present

Undergraduate Research Member | Closed-Loop Motor Control System

- Designed and built a touchscreen-controlled projectile launcher with a Raspberry Pi 5, DC motor, H-bridge driver, and encoders.
- Implemented closed-loop angular-velocity control with a startup routine that calibrates the motor and holds a speed under load.
- Integrated a 12-bit magnetic encoder over I2C with threaded sampling and verified speed within 3% on 240 fps video footage.
- Diagnosed and resolved a logic-level mismatches, an I2C bus conflict, and a control-loop oscillation during start up.
- Built a multi-screen touchscreen interface in Python/Pygame and designed the custom 3D-printed enclosure for the electronics.

Il Professore Italian Restaurant

Apr. 2023 – June 2025

Waiter

- Designed, digitized, and regularly updated the lunch, dinner, and event/seasonal menus, as well as the restaurant's wine lists.
- Compiled and managed the wine inventory; oversaw wine deliveries, maintained accurate stock, and reconciled supplier invoices.
- Recruited, trained, and onboarded new employees each season, fostering a collaborative, service-focused front-of-house staff.
- Reconciled daily credit and cash transactions and finalized the weekly financial reports with accuracy and full accountability.

PROJECTS

Data Analysis of Dynamic Systems and Vibrations

Fall 2026

MATLAB | Course Laboratory

- Collect dynamic systems data each week on an instrumented spring-mounted cart, varying mass and stiffness.
- Simulate the governing equations of motion in MATLAB and compare the predicted response with the response measured in lab.
- Built physical intuition for second-order ODE system behavior by comparing measured response against model predictions.

Stirling Engine Design and Machine Shop

October 2025

SOLIDWORKS | Course Project

- Developed detailed, dimensionally accurate SOLIDWORKS models of each engine component to engineering specification and fit.
- Integrated all components into a fully functional engine assembly in SOLIDWORKS, validating fit and alignment.
- Machined the components on precision shop equipment and performed the assembly, producing a prototype that ran at 600 RPM.

Reverse-Engineered Pull-Up Bar Assembly

November 2025

SOLIDWORKS | Course Project

- Disassembled commercial pull-up bar, hand-measured all 16 parts, and hand-drew dimensioned sketches to facilitate modeling.
- Modeled every component as a dimensionally accurate SOLIDWORKS part, with helical sweeps used for threaded hardware.
- Assembled all 16 parts into a fully mated assembly with an exploded view and a numbered BOM tied to the individual drawings.

OTHER/EXTRACURRICULAR

- Awarded 100% Bright Futures Scholarship (Earned by completion of AICE Diploma, 2022)
- Volunteer at Loggerhead Marine Life Center, contributing over 100 hours of community service (2022–2023).
- Brazilian Student Association Member (BRASA at FSU, Fall 2025 – present)
- American Society of Mechanical Engineers member (ASME at FAMU-FSU, Fall 2026 – present)
- Academic awards: Florida State University President's List (Spring 2025), Dean's List (Fall 2025)