

# Matthew DeCicco

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## Education

**Florida Polytechnic University** — Lakeland, FL

May 2024

Bachelor of Science in Mechanical Engineering (Aerospace), ABET accredited program — GPA: 3.87/4.0

Relevant Coursework: Acoustics • Finite Element Analysis • Flight Performance Mechanics • Heat Transfer • Introduction to Aero Structures • Mechatronic Systems • Orbital Mechanics

Campus Involvement: American Society of Mechanical Engineers (President) • Presidential Ambassador • Orientation Leader • Undergrad Research Assistant

## Skills

Software: SolidWorks (CSWP Certified) • AutoCAD • EES • MATLAB • ANSYS • NI LabVIEW • NI Multisim • COMSOL CFD

Programming: C/C++ • Python • Java • HTML

Technical: Arduino • Raspberry Pi • CAM/CNC • GD&T • DAQ • Laser cutting/SVG

## Experience

**Mechanical Engineering Intern** — West Pharmaceutical Services, St. Petersburg, FL

May 2024 — August 2024

- Designed a new gown room for the plant using AutoCAD, supporting over 300 employees, and coordinated with a local vendor for construction.
- Collaborated with a global team as the local DMO engineer to integrate two extruder lines into the global IoT system, capturing over 100 PLC tags and displaying process data for continuous recipe improvement and Level 0 LDMS.

**Mechanical Engineering Intern** — Bay Area Innovations, Tampa, FL

December 2023 — May 2024

- Applied full-cycle product development strategies and engineering principles to transform client visions into tangible products.
- Utilized SolidWorks to design products across various sectors, from medical devices to industrial applications.
- Implemented in-house additive manufacturing, reducing prototype timelines from weeks to days.

**Additive Manufacturing Manager** — Florida Polytechnic University, Lakeland, FL

May 2022 — May 2024

- Utilized FDM and SLA additive manufacturing techniques to fulfill diverse project requests for professors, community members, and students.
- Collaborate with professors to support research through CAM software, generating G-Code for CNC Lathe and Mill operations.
- Responsible for managing a fleet of over 30 printers from brands like MakerBot, Stratasys, Prusa, Bambu, and Formlabs, efficiently overseeing the processing of more than 2000 prints annually, ensuring timely project completion, and achieving consistently exceptional outcomes.

**Autonomous Golf Cart Research Assistant** — Florida Polytechnic University, Lakeland, FL

May 2022 — August 2023

- Led the authoring of an abstract for the Advanced Mobility Institute's project, collaborating with graduate students and professors in electrical and computer engineering, resulting in publication in IEEE Xplore.
- Developed and implemented Python scripts for a golf cart's Drive-By-Wire system, ensuring smooth operation across three modes: Manual, Wireless (Xbox remote), and Serial for computation offload.
- Designed, validated, and installed a wiring harness and circuitry for Raspberry Pi and Arduino, integrating 16 relays, 4 pneumatic valves, 2 limit switches, 3 DC-DC converters, a stepper controller, a touch screen, and other components for optimized cart system performance.

## Projects

**Automated Camera Cleaning System for Patrick Space Force Base** — Capstone

- Led an interdisciplinary team in designing, documenting, and producing an automated camera cleaning system for Patrick Space Force Base, employing first principles and NASA Engineering Methodology.
- Ensured effective communication with the project sponsor to align with design intent and product outcomes.
- Successfully created a well-documented and designed device, meeting the client's needs for a beta prototype and leaving a solid framework for a production scalable solution.

For a comprehensive list of additional projects, please visit my portfolio at: <https://m-decicco.github.io/portfolio/>