Matthew DeCicco

deciccomatthew@gmail.com • (970) 531-8378 • Lakeland, FL
https://www.linkedin.com/in/matthew-j-decicco/ • https://m-decicco.github.io/portfolio/

Education

Florida Polytechnic University — Lakeland, FL May 2024

Bachelor of Science in Mechanical Engineering (Aerospace), ABET accredited program — GPA: 3.89/4.0

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) • 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 — Bay Area Innovations, Tampa, FL December 2023 — Present

- Implemented in-house additive manufacturing, reducing prototype timelines from weeks to a day or two.
- Gained practical experience in product design engineering, acquiring knowledge in full cycle product development and adapting to client needs using engineering principles.

Additive Manufacturing Manager — Florida Polytechnic University, Lakeland, FL May 2022 — Present

- Utilize 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

- Collaborated with graduate students and esteemed professors in electrical and computer engineering on the Advanced Mobility Institute's project, where I took a leading role in authoring an abstract that was subsequently published in IEEE Xplore.
- Successfully developed and implemented Python scripts for the golf cart’s Drive-By-Wire system, ensuring smooth operation and precise control with three drive modes: Manual, Wireless via an Xbox remote, and Serial to allow for computation offload.
- Designed, validated, and installed the wiring harness and circuitry for Raspberry Pi and Arduino, resulting in seamless integration and optimized cart system performance. This included the integration of 16 relays, 4 pneumatic valves, 2 limit switches, 3 DC-DC converters, a stepper controller, a touch screen, and various other components.
- Collaborated with Florida Poly’s fabrication specialist, integrating a pneumatic system with the electronic control system, resulting in an innovative and cohesive solution that significantly enhanced the cart's capabilities.

HVAC Technician — Shane’s Heating & Cooling, Winter Haven, FL May 2021 — August 2021

- Designed duct work for residential and commercial buildings to optimize mass flow and air velocity at outlets.
- Studied refrigeration charts and refrigeration cycles to repair and enhance cooling efficiency of R22, R134A, and R410 systems.

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 delivered a well-documented device, meeting the client's request for production scalability with an order exceeding 100 units.

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