Eric Cupples

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Education

Aerospace Engineering (B.S. and M.S.), Embry-Riddle Aeronautical University **Aug 2022 – Present**

- Area of Concentration: Astronautical Engineering — Anticipated Graduation 2025 (B.S)
- Minor Space and Flight Operations and Applied Mathematics — Anticipated Graduation 2026 (M.S)
- AIAA Design-Build-Fly Team

Mathematics (A.A), Palomar College / Mira Costa College **Aug 2018 – Jun 2022**

- Mathematics Honors Program
- Engineering Drafting Focus

Work Experience

Regional Lead Timer, Finished Results LLC **Mar 2021 – Aug 2022**

- Effectively coordinated and ran high-capacity sporting events, resulting in fluid events and increased customer satisfaction.
- Administered accounts within Greater San Diego working with primary or collegiate school administrations and clients.
- Demonstrated expertise using computer systems and sensor/camera suites with advanced technology and database operations.

Engineering and Technology Director, San Marcos Unified School District **Jan 2019 – Nov 2022**

- Managed department and oversaw 11 primary and secondary schools with a team of 40 people
- Represented team on the local School Board to communicate with the community, parents, and students
- Created a region renowned High School Engineering Program, recognized by the San Diego Board of Education
- Integrated 12 STEM-based courses

Design and Electrical Engineer Senior Intern, Mercuty Alert (Formally Mercury Health LLC (UCSD)) **Sep 2021 – Feb 2022**

- Designed and manufactured a camera device with integrated AI monitoring to assist in medical crises, location tracking, and home/facility assistance
- Produced 4 Final Prototypes and planned and manufactured around 150 units
- Applied knowledge in manufacturing and designing machinery (3D and Resin Printers, CNC, Laser Cutters)

Design and Development Engineer Intern, Viastat Inc. **Jun 2019 – Aug 2019**

- Practical training in industrial manufacturing and floor operations
- Calibrated and maintained CNC machines, laser cutters, and 3D printers (plastic and resin) for large-scale unit production

Engineering Project Experience

AI Senior Home Monitoring System, Internship with Mercury Health

- Designed an AI home and facility monitoring system with an array of sensors, microphones, and cameras to detect medical crises, fall detection or cries for help, patient tracking, and a myriad of other features.
- Engineered a heat-resistant polymer to withstand temperatures of around 200C along with a cooling system to maintain critical systems and computers, fixing a critical design flaw of the first-generation model.
- Created 2nd Generation exterior design that is used by Mercury Health LLC in its largest contract with Pacifica Senior Living featuring a companion module with upgraded patient tracking and a camera-less model.

Water-Based Tesla Turbine Engine, Advanced CAD Simulation Project

- Redesigned a traditional water inlet Tesla engine for use in hypothetical commercial aircraft
- Engineered to use less water and simulated to bring improved efficiency by using a “multistage” power plant
- Calculated viscous forces were to improve accuracy in simulation

More engineering projects can be found on my website portfolio

Skills and Certifications

- 3D CAD Programs: SOLIDWORKS (Certified), AutoCAD (Certified), Inventor (Certified), Fusion 360
- Technical: 3D-Printing (Plastic and Resin), CNC Milling, Technical Drafting
- Computer Programming: C+, Python (Certified), Java, Simulink/MATLAB