Aidan P. Steins, EIT

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EDUCATION

California State University, Long Beach College of Engineering Expected December 2026
M.S. in Mechanical Engineering

University of San Diego Shiley-Marcos School of Engineering May 2024
B.S. / B.A. in Mechanical Engineering; Minor in Mathematics *Magna Cum Laude*

WORK EXPERIENCE

Mechanical Design Engineer July 2024 – July 2025
Weistec Engineering / Anaheim, CA

- Contributed to the design of an articulating and deployable solar array on a mobile power station, focusing on the conceptual structure design, component sourcing, and actuator calculations while also supporting CAD modeling, documentation, and fabrication
- Designed and prototyped bent sheet metal and 3D-printed components using SolidWorks sheet metal and surfacing tools, fiber laser cutting, press brake bending, and engineering-grade fiber-reinforced plastics
- Applied DFMA principles to create robust mechanical parts and modify existing designs resulting in a substantial reduction in manufacturing time
- Developed multiple production welding fixtures and verification jigs to confirm proper fit and post-processing of molded and fabricated parts, improving part accuracy and production efficiency
- Digitized 40+ automotive components using a five-axis scanner and probe (CMM) for integration purposes, which resulted in significantly faster CAD integration
- Organized and documented project subsections by defining design inputs, outputs, and verification methods, enhancing efficiency and improving communication within the engineering team
- Applied GD&T principles to create technical drawings, managed and created part and assembly BOMs, and tracked 75+ design revisions in SolidWorks PDM, ensuring 100% revision control
- Conducted first article inspections of 15+ outsourced components to confirm dimensionality and fit in the final application, reducing the number of sample iterations and improving client-vendor communication

PROJECTS

Camp Stove Condensing Water Heater October 2024 – November 2024

- Designed a tankless, camp-stove-powered condensing water heater capable of a $\Delta T \sim 32°F$ at a flow rate of ~1.1 L/min
- Validated a CFD model with real-world experiments to optimize the heat exchanger's shape, orientation, and material, aiming to maximize efficiency and reduce prototyping costs

BAE Systems Voice-Controlled Wireless Shifting Device September 2023 – May 2024

- Modeled and SLA 3D-printed an ingress-protection-rated, lightweight, and easily removable enclosure for a microcontroller, battery, and other electronic components
- Conducted user trials and achieved an average accuracy of 75% with a peak of 85%

Finite Element Analysis of an Off-Road Vehicle Gearbox December 2023

- Reduced the maximum stress experienced by a gear, key, and shaft assembly to 20% of the original design using SolidWorks Simulation with minimal weight increase

SKILLS

Software: SolidWorks (CAD, PDM, Simulation), Fusion 360, ANSYS Fluent, MATLAB, SmartSheets, PolyWorks
Coding Languages: C, Python, Java (Basic)
Manufacturing: CNC Mill, Fiber Laser Cutter, Electric Press Brake, MIG Welding, FDM & SLA 3D Printing, Woodworking

CERTIFICATIONS AND AWARDS

Engineer-in-Training (License #180969) January 2024
Certified SolidWorks Professional in Mechanical Design (Certificate ID C-ZJLB5YTF4H) December 2022
Certified SolidWorks Professional Advanced Sheet Metal (Certificate ID C-6YNAEUKC45) June 2024
Shiley-Marcos School of Engineering Scholarship November 2022