Jackson Davitt

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Education

California Polytechnic State University — San Luis Obispo, CA
Bachelor of Science in Mechanical Engineering — *September 2020 – June 2024*

Experience

Associate Manufacturing Engineer — September 2024 – Present
P.A. Bet, Inc. — *San Carlos, CA*

- Improved manufacturability of high-end architectural components by revising detailed shop drawings in AutoCAD, addressing feedback from architects and engineers while ensuring design intent and production feasibility
- Developed CNC programs for a 5-axis mill using bSolid for precision casework and custom wood elements
- Conducted field measurements at project sites to confirm dimensions and resolve discrepancies between design and as-built conditions

Product Development Engineering Intern — June 2023 – September 2023
SawStop — *Tualatin, OR*

- Designed a cam-based blade motion arresting device, prototyping and validating designs through iterative testing under real-world conditions
- Using feedback from design reviews, key components in the system were redesigned for injection molding after passing functionality tests
- Developed a signal filtering tool in Python to interpret sensor and visualize testing data
- Built a mechanical test bench for internal use that expedited validation processes for multiple departments.

Brakes Subsystem Member — September 2021 – May 2023
Cal Poly Racing Formula SAE — *San Luis Obispo, CA*

- Designed an adjustable throttle pedal system to optimize driver performance using iterative prototyping to refine ergonomics and response
- Fabricated components for the throttle pedal shock assembly using manual mill and lathe processes for integration onto both vehicle platforms
- Repaired and improved the carbon fiber monocoque mold using roughing and resin coating methods to ensure minimal defects in the completed chassis.

Projects

Senior Project - Pipe Inspection Device for NAVFAC EXWC — September 2023 – June 2024

- Designed and manufactured a robot platform for navigating and inspecting potable water pipes, focusing on the suspension and locomotion system
- Used iterative design and 3D printing to rapidly test and refine mechanical components for durability and ease of use
- Engaged with our sponsor during design reviews to ensure alignment with project requirements and milestones

Bike Trailer Design Project — September 2022 – November 2022

- Designed and analyzed a bike trailer to withstand defined loading conditions using SOLIDWORKS FEA to verify hand calculations
- Manufactured and tested the trailer under loading conditions and produced a detailed report analyzing its performance

Technical Skills

Software: SOLIDWORKS (Modeling and Simulation), Fusion 360, MATLAB, Simulink, ADAMS Simulation
Manufacturing Processes: Manual Lathe and Mill, TIG Welding, FDM Printing, Basic Casting, Hand Tools
Techniques: Detail Drawing, GD&T, Hand Drafting