Logan Garby

720-438-8278 | logangarby@gmail.com | LinkedIn

EDUCATION

California Polytechnic State University – San Luis Obispo   **June 2021**
Bachelor of Science Mechanical Engineering – Mechatronics Concentration   GPA: **3.6**
Cum Laude · Dean's List: Fall 2016, Winter 2017, Fall 2017, Fall 2019

ENGINEERING PROJECTS

Solar Panel Tracking Mechanism – Cal Poly Solar Regatta   Apr 2020 – Jun 2021
- Lead Mechatronics Engineer in charge of designing and building all mechatronics hardware, including an LDR feedback sensor array, linear actuators, and an MCU-operated control system.
- Designed and manufactured the electro-mechanical system used to transfer power from the solar panels to the mechatronics hardware and actuators.
- Links to visual examples: YouTube Video Demonstration, Final Design Review Report

Mechatronic Balancing Board   Nov 2020 – Mar 2021
- Programmed and built a mechanical system that balances a ball on an elevated platform.
- Controlled by a Nucleo STM32 microcontroller running MicroPython on a custom-made PCB.
- Utilized classical control theory with encoder sensors and a resistive touch sensor for feedback.
- Used bitbucket for version control and created a webpage with documentation, detailing this project (Labs 5-9) and more at: lgarby.bitbucket.io; YouTube Video Demonstration Link

Aircraft Fuel Tank Fixture Design   Sep 2019 – Dec 2019
- Designed the lightest possible 3D printed PLA component capable of handling a 250-lbf max load with less than 1/8-in tip deflection for a specific fixture geometry and load conditions.
- Performed tensile strength testing (ASTM D638) to determine the PLA material properties.
- Used SolidWorks FEM analysis with the material strength calibration to select final design.
- The manufactured design exceeded the FoS, with a max load of 588.7 lbf.

WORK EXPERIENCE

Data Engineering Intern – Axion Health Inc.   Jun 2018 – Aug 2018
- Responsible for the data validation of extremely large health care network employee data
- Developed SQL queries, drastically improving the process from 3 days per client to 30 min.
- Used Agile software development lifecycle management and JIRA for project tracking.

Assistant Trail Crew Leader & Crew Member – City of Boulder, CO   Jun 2013 – Aug 2017
- As a crew leader, taught, empowered, and mentored a supportive and productive team to accomplish project goals and sustainability goals for the City of Boulder Open Space.
- As a team crewmember, performed open space trail maintenance, including building wooden or stone steps, setting rocks for erosion and hiker guidance, and creating drainage features.

LEADERSHIP EXPERIENCE

Executive Board, Secretary – Theta Chi Fraternity   Oct 2017 – Oct 2018
- Youngest member elected to the Executive Board for the Cal Poly chapter of Theta Chi.
- Showed initiative by redesigning the point system designed to motivate member participation.

Orientation Leader – Cal Poly New Student & Transition Programs   Apr 2017 – Sep 2017
- Formed an inclusive environment that encouraged communication, respect, and personal growth.
- Responsible for a week of presentations, activities, discussions, meals, and transportation.

Assistant Trail Crew Leader – City of Boulder OSMP   May 2016 – Aug 2017
- Responsible for 12-member crew, teaching job responsibilities, teamwork, and collaboration.
- Ensured project goals were met on time with exceptional attention to detail and functionality.

Technical Skills:

Computer Aided Design (CAD Modeling)	MATLAB/Simulink	Object-Oriented Programming
Finite Element Analysis (FEA)	SolidWorks	JIRA Project Tracking
Geometric Dimensioning and Tolerancing (ASME Y14.5 GD&T)	Python	Tableau
Engineering Drawing (ASME Y14.100)	Oracle SQL	Adobe Photoshop/Premier Pro
Fabrication/Machining (Lathe, Mill, Drill, CNC)	Autodesk Fusion 360	MS Office (Excel, Word, PowerPoint)
Design for Manufacturing/Assembly (DFM/DFA)	Soldering/Circuit Design	Problem-Solving/Critical Thinking
	Embedded Systems	Communication/Collaboration