Logan Reuter

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Education

University of California, San Diego June 2025
Master of Science, Mechanical Engineering

University of California, Davis June 2024
Bachelor of Science, Mechanical Engineering

Experience

Mechatronic Engineering Intern *Fremont, CA*
Ultima Genomics *June 2024 - Sept. 2024*

- Developed a Python-based software to automate heater PCB creation based on design parameters, enabling the company to transition from an expensive supplier and save approximately $2,000 per heater model
- Constructed a test bench to assess the functionality of the generated heaters, ensuring proper heat distribution, utilizing an Analog Discovery 3 to automate data collection
- Evaluated the noise interference on a new cable using a test bench with a custom PCB for interfacing with the cable
- Designed a PCB in Altium Designer to power a heater system, integrating critical components including a PWM driver, differential I2C driver, and voltage regulator

June 2023 - Aug. 2023

- Automated operational testing of machinery using Python to perform diagnostic checks and produce testing reports, saving manufacturing engineers 1 hour per machine
- Authored a Python library for seamless interaction with ACS controllers, easing the development of future applications
- Established a self-hosted GitHub runner server for automated unit tests, ensuring code functionality.
- Architectured a Python library to store large amounts of data obtained over extended testing

Shop Technician *Davis, CA*
Diane Bryant Engineering Student Design Center *Aug. 2023 - June 2024*

- Conducted hands-on training for students in key manufacturing techniques, ensuring proficiency in safe and effective practices
- Designed a specialized PCB to evaluate students' soldering skills, prioritizing safety in the training
- Identified and resolved an issue that caused the degradation of 3D printer filament, cutting the amount of wasted filament in half, and increased the up time of the machines

Undergraduate Researcher *Davis, CA*
ARMS Lab *May 2023 - June 2024*

- Fabricated multiple stainless steel substrate plates for use on a DMG Mori metal 3D printer, supporting data collection on the thermal effects of the printing process
- Manufactured aluminum mounting plates for secure attachment of substrate plates
- Designed and manufactured a custom adapter plate to mount 3rd-party vises onto a DMG Mori CNC mill
- Restored an older DMG Mori NVD1500 to operational condition, conducting numerous tests to ensure functionality

Undergraduate Researcher *Davis, CA*
BIRD Lab *Feb. 2024 - June 2024*

- Developed a Python script to process over 1000 3D bird wing scans into smooth airfoil profiles, enabling CFD analysis and providing high-quality data for a research paper analyzing the wings of various bird species

Engineering Intern *Petaluma, CA*
KVAL Inc. *June 2019 - Aug. 2021*

- Operated a CNC engraver to produce all placards and specification plates for machinery
- Modeled various components in SolidWorks (including buttons, motors, and stickers) to extend our components library
- Automated the generation process of the spec plates by developing a full-stack application to increase productivity
- Automated the update of CAD drawing templates with a SolidWorks macro, saving the MechE team over 150 hours

Skills

CAD Software: SolidWorks, OnShape, Fusion360, AutoCAD
FEA Software: SimScale, Ansys
Fabrication: Soldering, Laser Cutting, FDM/SLA 3D Printing, Milling, Lathe, Sheet Metal, Welding
ECAD Software: Altium Designer, KiCAD
Robotics Software: CoppeliaSim, ROS
Programming Language: Python, MatLab, Javascript, Go, C/C++

Accomplishments

Eagle Scout, Troop 9 Aug. 2019