Aaron Caddell

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EDUCATION

B.S. Mechanical Engineering, University of California, Riverside June 2020
Upper Division Mechanical Engineering Major GPA: 3.16

TECHNICAL SKILLS

Software: Solidworks (Certified Solidworks Associate), MatLab, Microsoft Office, Autodesk Fusion 360, AutoCAD

RELEVANT PROFESSIONAL EXPERIENCE

Mechanical Engineering Intern, M&M Engineering August 2019 - September 2019
M&M Engineering is a family owned and operated machine shop which machines parts for a variety of customers.

- Completed time trials and developed daily management boards in order to apply lean manufacturing methodology within the facility.
- Designed sine plate within Fusion 360 intended to be usable on any machine in the shop.

Undergraduate Research Assistant, UC Riverside April 2019 - September 2019
Assesses the impact of automobile air pollutant emissions on the surrounding areas, specifically near a large highway.

- Collected and analyzed data from sonic anemometers and aethalometers.
- Assisted in the construction of 50 sampling devices which included soldering new batteries onto circuit boards, programming clocks in each device, and testing each device to ensure functionality.
- Operated a tracer gas emission system aboard an automobile during each study period.

Ergonomics Team Member, Society of Automotive Engineers September 2018 - March 2020
SAE at UCR designs and manufactures a formula-style race car for a student design competition.

- Designed an ergo jig in SolidWorks for the 2019-2020 vehicle.
- Worked within a group tasked with resigning the pedals for the 2019-2020 vehicle.

PROJECT EXPERIENCE

Senior Design Project, Dust-Tolerant Loose Sample Collection Device

- Worked within a group of four students tasked with designing a manually powered lunar sample collection device for NASA's Micro-G NExT competition.
- Operated a mill and lathe to manufacture parts for a prototype of the device and also utilized 3D printed parts.
- Utilized MatLab to optimize design parameters.

Stowable Shopping Cart Design Project

- Utilized the design process to flesh out an optimal grocery storage device design.
- Created a SolidWorks model of the design with a functional folding mechanism for seamless storage.

Automobile Modeling Project

- Derived the non-linear and linearized equations of motion for a car about a specified equilibrium speed and modeled the cruise control of an automobile utilizing MatLab.
- Modeled the suspension of an automobile using differential equations and utilized MatLab functions to derive transfer functions for characteristics of the automobile.