ANDREW ZHU
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Education

University of California, Berkeley, CA *Expected May 2024*
B.S. in Mechanical Engineering *with an Aerospace concentration* GPA: 3.672
and minor in Electrical Engineering and Computer Science (EECS) Generation Change Scholarship

Technical Skills

CAD • Advanced 3D Printing and Rapid Prototyping • FEA Simulations • Geometric Dimensioning & Tolerancing • Laser Engraving • Soldering • Metal Shop Training • Woodworking • Arduino and Adafruit • Analytics & Reporting • Internet of Things • Manufacturing and Design Communication

Software & Languages

Data: Power BI • SSRS • MATLAB • LaTeX • MS Excel
Engineering: SolidWorks • ANSYS • Autodesk Inventor & Fusion • GrabCad • Cura
Graphics: Photoshop • Blender • Premiere Pro • MS Office Suite
Languages: MATLAB • Python • C • SQL • CSS • HTML • Git

Relevant Courses

Computer Programming for Engineers • 3D Modeling for Design • Linear Algebra and Differential Equations • Physics: Electricity & Magnetism • Multivariable Calculus • Thermodynamics • Electronics for the Internet of Things • Solid Mechanics • Manufacturing and Design Communication

WORK & VOLUNTEER EXPERIENCES

Software Developer Intern – Mariner Finance LLC *Summer 2021*

- Focused on the Business Intelligence aspect by using POWER BI and SSRS for business analytics & reporting.
- Worked on database management using SQL and maintained existing reports and their relationships to the database
- Created a report pulling data from across databases to show usage rates and trends for all other company reports.

Homework Helper – Epiphany Community Center *2019*

- Volunteered at a community center dedicated to preventing and ending homelessness and its enduring effects through a holistic approach. Contributed towards providing the homework assistance portion

ACTIVITIES / EXTRACURRICULUM / PROJECTS

CalSol Solar Vehicle Racing @ Berkeley *Fall 2021 – Ongoing*

- On the Structures Mechanical subteam which designs, tests, and manufactures the vehicle's structural frame
- Ran impact tests using ANSYS in which the most updated model is imported and corrected recognized, material properties are defined, rosettes are created, oriented selections are highlighted, and layups are formatted before FEA composite simulations are ran. Simulations take days to set up and run due to the model complexity.

Space Technology and Rocketry (S.T.A.R) @ Berkeley *Fall 2021 - Ongoing*

- On the Stage Separation team which focuses on creating a device that can safely separate a rocket section midflight.
- Modified existing and designing new features for the Avionics Bay with SOLIDWORKS to make it user accessible.
- Redesigned the separation device so that the release springs remain intact during the controlled explosion.

Electronics for the IoT Course Project – "Rider's Guard" *Fall Semester 2021*

- Created a device that incorporates a brake light (BLS) and emergency alert system (EAS) for electric skateboards.
- The BLS warns others of the rider's state of motion using IMU and code that interpreted acceleration data.
- The EAS is programmed to identify potentially dire situations and pings a GPS position message via the internet.
- Became familiarized with PYTHON syntax, VISUAL STUDIO CODE, and GIT distributed version control system as well as hardware components such as the IMU module and ESP32 microcontroller while working on this project.

Man. and Design Communication Course Project – "Grabber Cane" *Summer Semester 2021*

- Designed a product geared towards the elderly that functions as both a walking cane and a device to grab small objects off of the ground. Used SOLIDWORKS to create the 15 custom or modified assembly components.
- Incorporated GD&T, table of fits, and CAD drawings to make sure components fit together accordingly.
- Became more adept at SOLIDWORKS, utilized Gantt Charts and documentation for organization, and became familiar with Blender, Premiere Pro, and Photoshop

Beaver Works Summer Institute (BWSI) @ Massachusetts Institute of Technology *Summer 2019*

- Learned everything about constructing 3D printers, and used PYTHON and GCODE to adjust the software.
- Physically modified 3D printers to perform a task other than its intended purpose such as printing melted chocolate.
- Won the Best Teamwork Award with two other members amongst 11 other teams.