James Ho

Santa Barbara, California | 626.731.2402 | jamesho512@gmail.com

EDUCATION

University of California, Santa Barbara Class of 2019
B.S. Mechanical Engineering GPA: 3.1/4.0

Coursework –Thermodynamics, Vibrations, Fluid Mechanics, Mechatronics, Mechanical Eng Design

TECHNICAL SKILLS

- Engineering – SolidWorks CAD & CAM, COMSOL, MATLAB, Arduino, C++
- Manufacturing - Mill, Lathe, Band Saw Soldering, Brazing, Welding
- General - MS Office Suite, MS Windows, Android OS, LaTeX

PROFESSIONAL EXPERIENCE

Mechanical Engineering Intern June 2018 – Present
Santa Barbara Infrared, Inc. *Santa Barbara, CA*

- Design and improve precision optical components used in the testing of aircraft and military vehicles
- Generate fabrication and assembly drawings, bills of materials, and engineering change orders
- Conduct failure investigations and use FEA to solve structural or performance issues
- Analyze production data to optimize the manufacturing processes of IR emitting devices

Senior Teaching Staff March 2017 – Present
UCSB Engineering Machine Shop *Santa Barbara, CA*

- Consult with engineering students working on projects after analyzing their CAD models
- Advise members the most optimal way to create parts under ISO, ANSI or ASME standard tolerances
- Supervise and instruct beginner machinists how to operate machining equipment and tools
- Fabricated a fully functional two-stroke air motor that operates at 3200 max RPM

Mechanical Engineer Intern Spring 2018
Vascular Biosciences *Santa Barbara, CA*

- Responsible for assembly and quality control inspection of a cardiovascular biopsy catheter
- CAD designed a mount for the catheter deploying mechanism to ensure stable operation
- Trained to operate daily in an ISO Class 7 cleanroom under formal FDA regulations

RELEVANT PROJECTS

UCSB Formula SAE March 2017 – Present

- Responsible for design and manufacturing processes of a Formula level race car
- Manage design of the chassis to mitigate stress on critical points and optimize aerodynamics
- Conduct frequent FEA tests on mainframe to demonstrate and improve total structural rigidity
- Collaborate with suspension and drivetrain team members to ensure that all external fitments are exact

Electric Bicycle Project Summer 2018

- Independently researched, designed, and built an electric motor-powered bicycle from scratch
- Performed extensive testing to analyze bike's performance against a human cyclist and competitors
- Created a comprehensive report documenting entire assembly process and evaluating test results

Automated White Board Eraser Spring 2018

- Created an electric white board eraser powered by two motors using a dual H-bridge
- Assigned team members to specific roles to divide workload evenly and efficiently
- Incorporated single touch activation using switch controlled by Arduino for simple user experience

CAD Robot Competition 1st Place Spring 2016

- Designed and built a fully functional robot using SolidWorks as the primary design tool
- Used Arduino interface to control all the robot's servo motors and actuators simultaneously
- Programmed robot to perform movements in sync with a soundtrack provided by the competition
- Received first place among over ten competing teams at the final design showcase

EXTRACURRICULARS

Self-Taught Automotive Technician

- Able to diagnose most vehicle issues using the OBD-II interface and execute the appropriate repairs
- Performed complete changes of timing belt, valve cover, rear axles, suspension assembly, and exhaust system

Alpha Phi Omega – Psi Chapter

- Professional co-ed leadership and service-based fraternity
- Commit to an average of 40 hours of community service per quarter