James Ho

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EDUCATION

University of California, Santa Barbara Class of 2019 | Dean's List

- B.S. Mechanical Engineering
- Relevant Coursework – Design I-IV, Thermodynamics, Fluid Mechanics, Mechatronics, Vibrations

TECHNICAL SKILLS

- Computing – SolidWorks CAD/CAM/PDM, G&M Code, Arduino (C++), MATLAB, COMSOL, Abaqus/CAE, CES
- Manufacturing – CNC Machining, Soldering, Brazing, Welding, Waterjet Cutting, Laser cutting
- Software – MS Office Suite, MS Windows, Android OS, LaTeX, HTML

WORK EXPERIENCE

Snap-on Specialty Tools **Industry, CA**
Design Engineer Intern *Jul 2019 – Present*

- Utilize Lean Six Sigma approach to design digital and mechanical torque wrenches
- Perform life-cycle testing on torque wrenches to analyze and prevent any failure modes
- Ran a Gage R&R study to quantify and reduce the variability of torque transducers

Santa Barbara Infrared, Inc. **Santa Barbara, CA**
Mechanical Engineer Intern *Jun 2018 – Jun 2019*

- Design precision optical components used on aircraft and military vehicles
- Use FEA to optimize structural rigidity while reducing material to minimize additive manufacturing costs
- Improve the thermal conductivity of IR-camera mounts to ensure they can act as a heatsink in vacuum

UCSB College of Engineering Machine Shop **Santa Barbara, CA**
Senior Teaching Assistant *Mar 2017 – Jun 2019*

- Teach engineering students how to safely operate milling machines and lathes
- Consult with students working on capstone projects to optimize their designs for manufacturability
- Demonstrate to members the most effective way to machine parts while conforming to GD&T

Vascular Biosciences **Santa Barbara, CA**
Mechanical Engineer Intern *Mar 2018 – Jun 2018*

- Perform assembly and quality control for a cardiovascular biopsy catheter in an ISO class 7 cleanroom
- CAD designed a mount for catheter deploying mechanism to ensure steady repeatable operation

RELEVANT PROJECTS

Northrop Grumman Air Bearing Test Kit Sep 2018 – Jun 2018

- Worked with industry partner to develop a frictionless interface that simulates deployment in space
- Designed 225 sq. ft. surface with a flatness tolerance of <0.001" per foot and friction coefficient of <0.0005
- Tested self-leveling materials between ±60°C to research their mechanical properties across a thermal profile
- Performed trade-off studies to optimize design based on variables such as cost, thermal stability, and setup time

Electric Bicycle Personal Project Jun 2018 – Aug 2018

- Built an electric bicycle capable of speeds over 25 miles per hour and a 20-mile electric range
- Designed a custom circuit and wiring system to construct the 650 Watt-hour lithium battery pack
- Modeled heat generation of electric motor in COMSOL to ensure adequate cooling under peak loads

UCSB Formula SAE Spring 2017 – Spring 2018

- Responsible for design and manufacturing processes of a Formula level race car
- Conducted multiple FEA tests on main chassis to improve structural rigidity and aerodynamics
- Collaborated with suspension and drivetrain team members to ensure that external mates are precise

EXTRACURRICULARS/INTERESTS

Self-Taught Automotive Technician

- Able to diagnose 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