James Ho

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EDUCATION

University of California, Santa Barbara | B.S. Mechanical Engineering Jun 2019
Awards: Dean's List, Robot Design Competition (1st Place), E-Sequence Writing Excellence Award
Skills: SolidWorks CAD/CAM, C++, Python, JS, HTML, MATLAB, G&M Code, COMSOL, Abaqus, Arduino

EXPERIENCE

Snap-on Tools | Industry, CA **(2 years, 5 months)**
Test Engineer Nov 2019 – Present
- Enabled 15+ new product launches by testing wrenches to industry standards such as ASME B107, ISO 6789
- Managed root-cause analysis for failed components and submitted potential solutions to management
- Accelerated wrench testing time by 70% by designing a new motorized torque loading system

Design Engineer Intern Jul 2019 – Oct 2019
- Improved mechanical torque wrench accuracy from ±4% to ±3% by certifying a new internal spring
- Increased the signal range of wireless electronic tools from 25m to 200m by eliminating signal obtrusion

Santa Barbara Infrared, Inc. | Santa Barbara, CA **(1 year)**
Mechanical Engineer Intern Jun 2018 – Jun 2019
- Increased the strength of 3D-printed camera mounts to 125% while reducing material to minimize cost
- Validated the thermal heatsinking capability of an infrared camera mount using SolidWorks FEA

UCSB College of Engineering Machine Shop | Santa Barbara, CA **(2 years, 3 months)**
Undergraduate Teaching Assistant Mar 2017 – Jun 2019
- Instructed over 100 students to safely operate mills, lathes, and other machining equipment
- Consulted weekly with engineering students to optimize their design projects for manufacturability

Vascular Biosciences | Santa Barbara, CA **(4 months)**
Mechanical Engineer Intern Mar 2018 – Jun 2018
- Performed assembly and quality control of a cardiovascular biopsy catheter in an ISO class 7 cleanroom
- Fabricated a mount for catheter deploying mechanism to ensure steady and repeatable operation

PROJECTS

Northrop Grumman Air Bearing Test Rig Sep 2018 – Jun 2019
- Collaborated with a team of five engineers to develop a 225 sqft. frictionless system simulating outer space
- Established a 3x3' scalable proof of concept with a flatness tolerance of 0.001"/sqft. and a friction of $\mu < 0.005$

Electric Bicycle Project Jun 2018 – Sep 2018
- Independently designed and built an electric bicycle, capable of reaching 25mph over a 20-mile range
- Fabricated a 650Wh lithium-ion battery pack by creating custom wiring and housing for 60 individual cells

UCSB Formula SAE Sep 2017 – Jun 2018
- Worked with a team of four engineers to design and manufacture the chassis of a Formula level race car
- Optimized chassis rigidity and aerodynamics across a dozen design iterations using COMSOL FEA

INTERESTS

Self-Taught Automotive Repair
- Diagnosed three different vehicle issues using OBD-II interface and executed the appropriate repairs
- Completed full repairs for timing belt, valve cover, rear axle, suspension subassembly, and exhaust system