

Herbert Hsu

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WORK EXPERIENCE

Apple Inc. | Sunnyvale, CA

Jul 2022 - Present

Manufacturing Quality Engineer - Acoustic Modules

- Lead all quality efforts for speakers modules on all iPad programs by working with international vendors and engineering team
- Developed measurement and reliability test method on part level to ensure the test/design objectives are met
- Drove failure analysis and corrective actions on quality issues, successfully ramped 1x iPad program
- Developed quality plans for dimensional, cosmetic, and functional criteria for 2x NPI programs
- Conducted yield gap analysis with cross-functional teams to develop corrective actions/process improvements with statistical analysis and data driven approach
- Presented to operations and design team executives on top issues and progress on yield targets weekly

Intel Corporation | Santa Clara, CA

Aug 2019 - Jul 2022

Technology Development Module Process Engineer – EUV Pellicles

- Operated and oversaw a 24/7 module (5x tool owner), worked with technicians to integrate and ensure quality of manufacturing process of semiconductor EUV photomasks. Ramped up module output by 230%.
- Led DOE, SPC analysis, root cause analysis, and implemented permanent corrective actions with cross module teams to meet specifications for manufacturing processes. Increased product yield by 40%.
- Worked with internal groups and/or equipment supplier to identify shortcomings, proposed and evaluated hardware modification to mitigate issues, supported preventative maintenance/repairs, and developed next-gen tool to support customer product requirements.
- Designed, built, and tested in house jigs/fixtures and tools to exploit the understanding gained in research. Responsible for building mechatronics module and front-end UI of automatic in-house inspection tool that decreased processing time by 30% and cost savings of ~\$640k - Intel Mask Operations Department Award

Skills: SolidWorks, FEA, Python (Data analysis/visualization, Mechatronics), SQL, SPC, rapid prototyping, DOE

University of Michigan Transportation Research Institute | Ann Arbor, MI

Sep 2018 - Dec 2018

Engineering Intern

- Designed, built & tested canine crash test dummies for commercial pet restraint products. Created first prototype with moveable joints within 4 months. *Tools: SolidWorks*

GM/University of Michigan Smart Materials and Structures Lab | Ann Arbor, MI

Sep 2017 - Dec 2017

Research Assistant

- Designed & built a high-speed CNC bladder maker capable of producing heat-sealed inflatables up to 4'x4' for General Motors. Assessed printer quality by testing 11 samples with different geometry. *Tools: SolidWorks, G-code (See portfolio)*

Institute of Oceanography, National Taiwan University

May 2017 - Jun 2017

Mechanical Engineering Intern

- Lab has weather buoys around the island. Developed a data visualization application that displayed ocean/wind currents in a Google-earth style globe. Learned JavaScript & HTML to complete project. Analyzed/tested the application.

Tools: JavaScript/Python/HTML/JSON.

EDUCATION

University of Michigan | Ann Arbor, MI

May 2019

B.S.E in Mechanical Engineering, Magna Cum Laude

Tecnun, Universidad de Navarra | San Sebastián, Spain

Summer 2016

SKILLS

Engineering Skills: Design for Manufacturability (DFM), GD&T, engineering drawings, machine shop tools, 3D printing, microcontrollers, lab equipment, DOE, heat transfer analysis, structural analysis, thermodynamics, FEA, Data Analysis.

Computer Skills: MATLAB, SolidWorks, Simulink, C++, Java, Python, G-Code, HTML, Linux, JSON, ADAMS, Hypermesh, MS Excel, PowerPoint, JMP, SQL.

Languages: English (native), Mandarin (fluent), Spanish (beginner)

OTHER ACTIVITIES

Apparel Chair, Alpha Tau Omega Fraternity: Designed, ordered and managed budget for apparel in fraternity with over 70 members.

FRC Robotics Team, Mountain View High School: Created small SolidWorks models and manufactured metal parts for the team.

California Philharmonic Youth Orchestra: Violin. **Hobbies:** graphic design, embedded electronics.