

# Herbert Hsu

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## WORK EXPERIENCE

### Apple Inc. | Sunnyvale, CA

Jul 2022 - Present

#### Manufacturing Quality Engineer - Acoustic Modules

- Led all quality efforts for speaker module manufacturing on iPad/iPhone programs by working with oversea vendors and engineering team from concept to high volume mass production
- Developed measurement and reliability test method for 6x NPI programs to ensure the design objectives are met
- Resolved manufacturing/design issues with cross-functional teams to develop corrective actions/process improvements with techniques including DOE, failure analysis, Cpk, GR&R, PFMEA, etc. Successfully ramped 5x iPad programs with new material and technology introduction meeting yield and supply targets
- Managed 4 international vendors by conducting line audits to ensure process/inspection equipment compliance and readiness
- Presented to operations and cross-functional 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 and introduce new novel processes (1x patent). 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 (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.