Alan Hsiao

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EDUCATION

Cornell University
Master of Engineering
Electrical & Computer Engineering
Grad. Dec 2021

Cornell University
Bachelor of Science
Electrical & Computer Engineering
Grad. May 2021
Engineering Leadership Certification
Dean's List
GPA: 3.82

COURSEWORK

Digital VLSI
Computer Architecture
Embedded Systems
Digital Logic
Circuit Analysis
Telecommunications
Power Electronics
Data Structures
Digital Signal Processing
Microelectronics
Operating Systems

SKILLS

Programming:
MATLAB, Python, Java, C, C++
SystemVerilog, Verilog, LINUX
Assembly, HTML, CSS, LaTeX

Circuit Design:
Altium Designer, OrCAD
Cadence Virtuoso, EagleCAD

Fabrication:
Hand & Reflow Soldering, 3D Printing
Component Selection, Circuit Testing

Tools:
GitHub, Simulink
Intel Quartus Prime, Fusion360
Adobe Suite, Microsoft Office

Training:
Electrostatic Discharge (ESD)
Clean Room Protocol
Ethics & Compliance

EXPERIENCE

Microsoft - Surface   Summer 2021
Electrical Engineering Intern   Redmond, WA
- Implement a wireless charging proof of concept for a Surface Pro 6 by leveraging the existing charging path
- Work with the mechanical team to define requirements for seamless device and charging puck integration

Facebook - Oculus   Summer 2020
Systems Electrical Engineering Intern   Menlo Park, CA
- Designed schematics for automatic power measurement of subsystems by utilizing the NI Tools platform
- Defined sampling, accuracy, bandwidth, and processing requirements for a custom built data acquisition system.
- Scripted in Python to develop a platform for automating validation and correction of Oculus schematics

Nexus at Cornell - Social Impact   Jan 2020 - Present
Founder & President   Ithaca, NY
- First place at the Cornell 2021 Innovation Competition for the Yunni and Maxine Pao Social Innovation Award ($3,000)
- Lead a multidisciplinary team of 20 students to develop an autonomous vehicle that removes pollution from beaches to improve sustainable beach management

Space Systems Design Studio - CubeSats   Jan 2018 – Aug 2019
Avionics and Attitude Control Team   Ithaca, NY
- Selected and funded by NASA for the 9th round of Cube Satellite missions scheduled to launch in August 2021
- Develop three 3U+ CubeSats that aim to be the first to autonomously rendezvous and dock in orbit

Collins Aerospace - ISR Space Systems   Summer 2019
Systems Engineering Intern   Westford, MA
- Created a Rapid Prototyping System [RPS] on a real-time kernel by utilizing Simulink, MATLAB, and xPC Target
- Achieved a 250-300% increase in testing rate by implementing the RPS for a reconnaissance sensor focusing system

PROJECTS

Door Alarm
Fabricated an embedded smart alarm that notifies user of unauthorized door access over Facebook Messenger

Quad-core Processor
Designed and implemented a pipelined quad-core processor with multi-level caches using SystemVerilog with a team of two.