Alan Hsiao

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US Citizen

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: 3.79

COURSEWORK

Digital VLSI
Computer Architecture
Embedded Systems
Digital Logic
Circuit Analysis
Telecommunications
Power Electronics
Data Structures
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, Allegro PCB

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

Facebook - Oculus Summer 2020
Systems Electrical Engineering Intern [Remote] 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

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 March 2021
- Develop three 3U+ CubeSats that aim to be the first CubeSats to autonomously rendezvous and dock in orbit
- Engineer and implement electrical systems for attitude control, power, propulsion, and communications

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
- Built an application capable of controlling simulations through Ethernet protocol on a high-performance target computer
- Achieved a 250-300% increase in testing rate by implementing the RPS for a reconnaissance sensor focusing system

Nexus at Cornell - Engineering Social Impact Jan 2020 - Present
Founder & President Ithaca, NY

- Develop an autonomous vehicle that removes pollution from beaches to improve sustainable beach management
- Lead a multidisciplinary team of 20 students to develop simulations, algorithms, and hardware systems

PROJECTS

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

VLSI Convolution
Used Cadence Virtuoso to design, layout, and verify an area optimized 8-bit convolution circuit with a team of three

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