

# Monty Choy

[montychoy00@gmail.com](mailto:montychoy00@gmail.com) | 650.898.7160

San Francisco, CA

[montychoy.com](http://montychoy.com) | [linkedin.com/in/montychoy](https://www.linkedin.com/in/montychoy) | [github.com/mochoy](https://github.com/mochoy) | [suild.com](http://suild.com)

## Education

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**California Polytechnic State University, San Luis Obispo** (Junior) Expected Jun. 2022

*Bachelors of Science in Electrical Engineering - 3.95 Major GPA*

*San Luis Obispo, CA*

- Dean's List; Hyperloop Control Systems lead, SLO Breakers, EE Mentor, Yu-Gi-Oh Club

## Experience

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**Microsoft** Jun. 2020 - Sep. 2020

*Software Engineering Intern - Surface Duo Firmware Engineering* (Remote) Sunnyvale, CA

- Brought-up, integrated, & developed sensor device driver on Qualcomm Snapdragon SoC
  - Deployed driver for commercialization on the Surface Duo for use by 1M+ customers
  - Debugged hardware, system integration, & registry loading for successful driver operation
  - Configured dual sensor instance & exposed sensors to Android framework in C & C++
  - Programmed hardware register configuration functionality from external sensor entities
- Developed Android app, Android framework, & native libraries for modem configuration

**Apple** (9 months) Jan. 2019 - Sep. 2019

*Hardware Engineering Intern - Apple TV Hardware Engineering* Cupertino, CA

- Designed electrical, mechanical, & software system to characterize IR performance
  - Developed embedded abstraction layer on STM32 MCU for closed-loop motor control, LCD drives, sensor/peripheral control, & I2C & UART communication
  - Programmed Python application as flexible entry point into embedded systems over USB
- Architected, prototyped, & designed HDMI dev platform PCB. Design lead for DC-DC power, USB, & debug subsystems. Collaborated on high-speed digital (HDMI) & MCU subsystems
- Led validation, debug, & FA efforts: HDMI (CTS), PMU, SoC, UART, NAND, PCIe & PDM mic hardware subsystem, & multilayer PCB failure
- Analyzed A-series SoC thermal & power performance across temperature & process corners
  - Wrote Python scripts for Serial data collection to measure long-term device performance

**Suild** Nov. 2016 - Jul. 2020

*CEO* San Francisco, CA

- Designed, coded, manufactured, tested, & shipped pcb-based electronics products implementing AVR MCUs, USB, UART, DC-DC converters, & PID controlled inductive loads
- Shipped 1k+ units to 10+ countries on webstore with 30k+ annual sessions & \$15k+ revenue
- Deployed frontend, backend, & system architecture e-commerce website with MERN stack
- Developed documentation hosting functionality & interactive web applications
- Programmed AVR MCUs for PID controlled inductive loads to meet hardware spec

## Projects

Find more at [suild.com](http://suild.com) & [montychoy.com](http://montychoy.com)

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**Suild.com - [suild.com](http://suild.com)** Feb. 2018 - Jul. 2020

- Webstore that receives 30k+ annual sessions & processes \$15k+ revenue
- Hosts interactive web applications, technical documentation, & e-commerce functionality
- Built with React, Node.js, Express, Mongo DB, Google Analytics, Paypal API

**TeleMentary Box - First Place Google Cloud Platform, SLO Hacks 2020** Feb. 2020

- Personal security locker to prevent package theft with live-streaming facial detection & gps
- Deployed React application & GCP firebase, facial detection, & machine learning cloud functions

## Technical Skills

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- **Web Development:** React, Node.js, Mongodb, JavaScript, Python, HTML, CSS, JSON, npm
  - **Embedded Programming:** C, C++, device drivers, HAL, RISC-V, computer architecture