

Monty Choy

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San Francisco, CA

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

Education

California Polytechnic State University, San Luis Obispo

(Junior) Expected Jun. 2022

BS Electrical Engineering - 3.95 Major GPA

San Luis Obispo, CA

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

Experience

Microsoft

Jun. 2020 - Sep. 2020

Software Engineering Intern - Surface Duo Firmware Engineering

(Remote) Sunnyvale, CA

- Brought-up, integrated, developed, & customized sensor device driver for commercialization on Qualcomm Snapdragon SoC sensors processor & applications processor HAL
- 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
- 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 test coverage on factory line to ensure correct placement, value, etc. for every component at each test station. Increased component test coverage by over 25%

Suid

Feb. 2018 - Jul. 2020

CEO

San Francisco, CA

- Shipped 1k+ units to 10+ countries on webstore with 30k+ annual sessions & \$15k+ revenue
- Managed entire product design lifecycle of multiple pcb-based electronics products from concept, architecture, prototype, design, coding, validation, assembly, manufacturing, testing, & shipping
- Designed & programmed embedded electronics products implementing AVR MCUs, USB, UART, DC-DC switching & linear converters, & PID controlled inductive loads

Projects

Find more at suid.com & montychoy.com

Select-Fire Nerf Rapidstrike Kit - suid.com/shop/4

Jun. 2019 - Jul. 2020

- Designed & manufactured PCB-based product for select-fire control in modified Nerf blasters
- PCB implements programmed MCU, USB, UART, analog, high-speed digital, DC-DC power, closed-loop PID inductive drive, & debug hardware subsystems

RISC-V MCU

Apr. 2018 - Jun. 2020

- Designed MCU & microarchitecture to implement RISC-V ISA in SystemVerilog on FPGA
- Wrote test benches to validate hardware modules before & after system integration

Technical Skills

- **Hardware Engineering:** MCUs, I2C, SPI, CAN, USB, UART, HDMI, PCB layout & design, test coverage & HW validation, computer architecture, RISC-V ISA, high-speed digital design
- **Power Electronics:** DC switching regulators, inductive drives, MOSFET drives, LiPo batteries
- **Software Engineering:** C, C++, Python, firmware, scripting, device drivers