

Matthew Tran

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Education

University of California, Berkeley Berkeley, CA

B.S. in Electrical Engineering and Computer Science | GPA: 3.9

May 2022

- Coursework: EE151 (Digital Design), EE151LB (FPGA), CS162 (Operating Systems), CS161 (Security), CS189 (ML), CS188 (AI), EE149 (Embedded Systems), EE106A/B (Robotics), EE123 (Digital Signal Processing), CS170 (Algorithms), EE105 (Circuits), EE120 (Signals & Systems)
- Regents' and Chancellor's Scholarship (awarded to the top 2% of undergraduate students)
- Eta Kappa Nu (HKN) Honor Society Member (recognizes the top 25% of EECS undergraduate students)

Experiences

SpaceX Hawthorne, CA

Build Reliability Intern

May 2020 – August 2020

- Successfully drove root cause investigations on multiple products ranging from flight computers to cameras and based on findings provided recommendations for corrective actions to the relevant team
- Developed miscellaneous software and hardware tools to aid in root cause investigations

Activities

UC Berkeley IEEE Student Branch Berkeley, CA

Micromouse Director

January 2020 – Present

- Adapted course for remote setting and streamlined teaching process by improving documentation and lab format

Micromouse Officer

August 2019 – December 2019

- Updated, created, and presented labs ranging in topics from I²C to PID to guide students through building a maze-solving robot for the Micromouse competition
- Wrote a simulation in Python to aid in understanding algorithm implementation and hardware limitations

Underwater Robotics at Berkeley Berkeley, CA

Electrical Lead

August 2019 – Present

- Designing electrical system for MATE and RoboSub vehicles focusing on reliability, manufacturability, and repairability

Electrical Team Member

August 2018 – August 2019

- Used KiCad to design power distribution board to safely power various devices used on vehicle

CalSol Berkeley, CA

Electrical Lead

August 2020 – Present

- Led weekly meetings facilitating new member projects and development of tenth generation vehicle

Electrical Team Member

August 2018 – Present

- Developed test bench to simulate and debug electrical system of the vehicle
- Updated high voltage power distribution board with reduced footprint and increased integration

Projects

RISC-V CPU

April 2021 – May 2021

- For EE151LB final project, designed and implemented a 3-stage pipelined RISC-V CPU on a PYNQ-Z1 with synchronous memory, UART tethering, and CNN hardware accelerator

STM32 APRS Transceiver

July 2020 – August 2020

- Designed a low-cost compact device implementing AFSK encoding/decoding algorithms, text UI graphics driver, and keyboard to provide APRS messaging capabilities to off-the-shelf low-cost radios

PCB Laminator

January 2019 – June 2019

- Modified an off-the-shelf laminator to easily and reliably make 0.008" trace/space PCBs, vastly speeding up the prototyping process; learned MATLAB Simulink to do system identification and PID tuning

Skills and Interests

Languages: Python, C, C++, Java, Go, Verilog

PCB Design: KiCad, Altium, EAGLE

IDEs: Arduino, Mbed Studio, Intel Quartus, Xilinx Vivado

CAD: Fusion 360, SolidWorks

Certifications: CSWA (Certified SolidWorks Associate)