Matthew Tran

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Education

University of California, Berkeley *Berkeley, CA*
B.S. in Electrical Engineering and Computer Science | GPA: 3.94 *May 2022*

- Coursework: CS152 (Computer Architecture), CS161 (Security), CS162 (Operating Systems), CS164 (Compilers), CS170 (Algorithms), CS188 (AI), CS189 (ML), EE105 (Circuits), EE106A/B (Robotics), EE120 (Signals & Systems), EE123 (Digital Signal Processing), EE127 (Optimization), EE130 (Semiconductors), EE142 (RF), EE149 (Embedded Systems), EE151 (Digital Design), EE151LB (FPGA), EE194 (Tapeout)
- 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*
Avionics Intern *May 2021 – August 2021*

- Designed high voltage switch and updated multiplexer board for general purpose use in test rack development
- Wrote software to pull image frames and metadata from compressed camera streams for real time analysis

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

Activities

UC Berkeley IEEE Student Branch *Berkeley, CA*
Micromouse Director *January 2020 – May 2022*

- Adapted course for remote setting and streamlined teaching process by improving documentation and lab format
- Developed new robot kit and curriculum used to teach the class focused on manufacturability and ease of use

Micromouse Officer *August 2019 – December 2019*

- Created and presented labs guiding 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 – May 2022*

- Architected electrical system for MATE and RoboSub vehicles focused 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 – August 2021*

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

Electrical Team Member *August 2018 – May 2022*

- 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

Skills and Interests

Languages: Python, C, C++, Java, Verilog, Chisel
PCB Design: KiCad, Altium, EAGLE
IDEs: Arduino, Mbed Studio, Intel Quartus, Xilinx Vivado
CAD: Fusion 360, SolidWorks
Certifications: CSWA (Certified SolidWorks Associate)