Sabrina D. Miller

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EDUCATION

Tufts University, *Medford, MA*   Expected May 2020
B.S. in Computer Engineering, Minor in Music
GPA: 3.91
Honors: Eta Kappa Nu (President), Tau Beta Pi, Dean's List (2016 - present)
Relevant Coursework: Digital/Analog Electronics, Operating Systems, Microprocessor Architecture, Data Structures, Web Programming, Linear Systems, Differential Equations

Santa Cruz High School, *Santa Cruz, CA*   May 2016
Valedictorian

SKILLS

Computer: Linux, kernel development, Bash scripting, C/C++, Python, MATLAB, Yocto Project, Git/Github, ARM Assembly, JavaScript, HTML/CSS
Electrical Engineering: SPICE, circuit theory/design, PCB design (Altium), VHDL, soldering

WORK EXPERIENCE

Tulip Interfaces, IoT/Hardware intern, *Somerville, MA*   May 2019 - present
- Developed kernel software for Odroid-C2 boards to run on Tulip's I/O gateway by incorporating custom hardware into Odroid's device tree
- Designed and fabricated ADC calibration boards, using Altium for PCB design/ layout and hand-soldered components on boards
- Integrated EEPROM and wrote eMMC flasher script for Nanopi-R1 boards

Tufts University, Teaching Assistant   September 2018 - present
Intro to Digital Electronics (Dept. of Electrical & Computer Engineering)
- Developed new course material pertaining to analysis and design of logic circuits
- Led undergraduate lab section to aid in student understanding of building and understanding sequential and combinational circuits, programming FPGAs

Discrete Math (Dept. of Computer Science)
- Provided guidance in student understanding of course topics such as relations and functions, logic and methods of proof, combinatorics, graphs

PROJECTS

Swarmbots   January - May 2019
- Modeled and simulated the navigation and environmental sensing of autonomous vehicles by designing a swarmbot team consisting of a community of two robots
- Designed and implemented circuits for colored path detection, sending and receiving messages, collision detection, motor control

Pulse Oximeter   January - April 2018
- Created a circuit to detect variations in IR light intensity using a photosensor
- Used feedback control to correct for error based on patient finger size

MATLAB Electronic Tuner   April - May 2017
- Designed a tuner with MATLAB using audio sampling and Fourier analysis to compare an input frequency to its corresponding note frequency
- Created a user interface to provide a visual representation of note accuracy
- Digitally synthesized tones for real-time comparison

ACTIVITIES/SOCIETIES

Electrical & Computer Engineering Student Advisory Board, Tufts University   February 2018 - present
- Selected to be on board by head of ECE department
- Collaborate with ECE professors to improve curriculum

Tufts Girls of Code, Coder/presenter, *Medford, MA*   September 2017 - present
- Aid ~30 young women with fun programming tasks and activities

Tufts Wind Ensemble, Flute Ensemble, Symphony Orchestra, Lead flautist   September 2016 - present