Portfolio

Maxwell Sotnick

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EDUCATION

California Polytechnic State University, San Luis Obispo
Bachelor of Science in Electrical Engineering Sep 2017 — Jun 2021
Computer Science Minor

SKILLS

Programming Languages:
- Python, Java, SystemVerilog, VHDL, C/C++, MIPS Assembly, HTML
- Working knowledge of JavaScript, PHP, Markdown, YAML, JSON, XML, Shell (CLI)

Software:
LTSpice, ADS, PSpice, Matlab, Simulink, Vivado, Tinkercad, GitHub, Microsoft Office, BenchVue, EasyEDA, Eagle, LabVIEW, Waveforms, DipTrace, Postman

Hardware:
Microcontrollers/Microprocessors (Arduino, Raspberry Pi Model 3, Xbee3, STM32), FPGA (Basys 3 Board), Oscilloscope, Function Generator, Multimeter, 10MHz - 3GHz Vector Network Measurement System (VNA), Analog Discovery 2, RTL-SDR, Soldering Iron

Additional Skills:
Fluency in Spanish (Reading, Writing, Speaking), Red Tag Certified, CPR and First Aid Certified (BLS, BFA), O2 Certified, Public Speaking, Adaptable, Quick Learner, Self Accountable, Resourceful

PROJECTS

Interdisciplinary Capstone w/ Edwards Lifesciences (Sr. Project) Sept 2020 — Jun 2021
- Collaborated as part of a interdisciplinary team to research, design, and implement a deliverable for Edwards Lifesciences

RAM BIST for RISC V Architecture (Otter Box MCU) (EE 532) Mar 2020 — Jun 2020
- Developed and integrated MBIST architecture into Otter Box MCU to cover a variety of faults inherent to memory

Cybathlon: Data Logging and Load Cell/Sensor Integration (QL+SA) Oct 2019 — Mar 2020
- Designed and tested analog circuitry for polling flex and strain data of the knee
- Developed data logging program for both short and long term data collection needed to perform Gait analysis realtime

Robo Whacker: Automated Weed Whacking (Personal) Jul 2019 — Aug 2019
- Utilized components such as hall-effect sensor, IR receiver, and ultrasonic sensor for obstacle detection

RAT CPU and Assembly Programming Project (CPE 233) Jan 2019 — Mar 2019
- Constructed PC architecture utilizing a Basys 3

RELEVANT COURSEWORK

CPE 233 (Computer Design and Assembly Programming) • CPE 202, 203 (Data Structures, OO Programing and Design) • EE 306, 307, 308, 409 (Semiconductor Device Electronics, Digital Electronics and Integrated Circuits, Analog Electronics and Integrated Circuits, Electronic Design) • EE 302 (Classical Control Systems) • CPE 315 (Computer Architecture) • EE 329 (Microcontroller Based Systems Design) • EE 532 (VLSI Circuit Testing) • CPE 428 (Computer Vision) • CPE 357 (Systems Programming) • EE 412 (Advanced Analog Circuits) • EE 419 (Digital Signal Processing)

WORK/SERVICE EXPERIENCE

Lifeguard, Swim Instructor, Basketball Coach Dec 2015 — Sep 2019
Central YMCA (Silicon Valley Branch), San Jose, CA
- Developed effective communication skills with a wide variety of people (e.g. youth, parents, seniors, intellectually disabled)
- Enhanced leadership and adaptive thinking skills in a team centric environment

Organizations/Clubs: IEEE, BMES, QL+SA (Cybathlon), EE Mentorship