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, 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), FPGA (Basys 3 Board), Oscilloscope, Function Generator, Multimeter, 10MHz - 3GHz Vector Network Measurement System (VNA), Analog Discovery 2, RTL-SDR, Soldering Iron
- Working knowledge of various bus interfaces, such as Wi-Fi, Bluetooth, PCIx, USB, eSATA, WAN, LAN

Additional Skills:

Fluency in Spanish (Reading, Writing, Speaking), Red Tag Certified, CPR and First Aid Certified (BLS, BFA), O2 Certified, Public Speaking

PROJECTS

RAT CPU and Assembly Programming Project (CPE 233) Jan 2019 — Mar 2019

- Constructed PC architecture (RAT CPU) utilizing VHDL and an FPGA

Robo Whacker: Automated Weed Whacking (Personal) Jul 2019 — Aug 2019

- Utilizes components such as hall-effect sensor, DC motors, IR receiver/diode, ultrasonic sensor in order to navigate and detect weeds

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

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

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