Daniel Cruz

Education
The University of Texas at El Paso (UTEP)
Masters of Science in Computer Science (MSCS) Anticipated Spring 2022
El Paso, TX
GPA 4.0/4.0
The University of Texas at El Paso (UTEP)
Bachelors of Science in Electrical Engineering (BSEE) Fall 2019
El Paso, TX
GPA 4.0/4.0
Honors/Affiliates
Tau Beta Pi (November 2016-Present)

Dean's List (2015-Present)
UTEP System Ecology Lab (2019-present)
UTEP Netlab (2018-present)

Experience
Developing Circuity for Detecting Heart Signals (May 2016 and May 2017)
- Designed and developed EKG circuitry in a group of two using active filter circuits
- Designed and developed photoplethysmography circuitry in a group of three using Arduino microcontroller

Undergraduate Research on Bluetooth Heart Sensor Smartphone App (Summer 2017)
- Worked in a team of three to develop code for Bluetooth connection between android and Arduino
- Developed C based Arduino code for signal processing
- Developed an android app to graph heart signal using MIT App Inventor

Undergraduate Research on EEG Embedded Systems PCB Design (Summer 2018)
- Assisted in developing Electroencephalography embedded systems design for Sands Research
- MSP432 embedded system design for neurology sensor
- Developed USB isolation circuitry

Designed Network Based Sensor Interface (October 2018-January 2019)

- Developed for Opentap, a software-defined data acquisition program
- Wrote python script to configure, display, and save data recorded from USB sensors

Assisted in the Development of Remote Sensing Systems for Recording Ecological Data (February 2019-present)

- Wrote and tested C and Python scripts on Linux based camera systems designed to record long term phenology
- Designed PCB for a daughter board that connects to a Raspberry Pi computer.
- Sponsored by Artic Domain Awareness Center as part of the Arctic Summer Internship Program
- Camera systems set up in Jornada Experimental Range in Las Cruces, New Mexico and northern Alaska

Skills
- Proficient in C and C++
- Proficient in microprocessor programming
- intermediate knowledge in MATLAB
- intermediate knowledge in Java
- intermediate knowledge in Linux
- intermediate knowledge in soldering
- intermediate knowledge in Python
- Familiar with Keras
- Familiar with Eagle PCB design software

Publications

Daniel Cruz, Michelle Patiño, Michael Mikhael, Mohammad Ghamari, Homer Nazeran, "Bluetooth Enabled Smartphone Application For Wireless Photoplethysmography Monitoring Devices", 34th Annual Southern Biomedical Engineering Conference