Daniel Mendez

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EDUCATION

MS Embedded Systems Engineering and the Internet of Things *Expected 2024*
University of Colorado-Boulder, Boulder, CO

- 3.88 GPA
- Member of the SWARM-EX Cube Satellite Development Team.
- Member of the International Festival Committee

BSc. Electrical and Computer Engineering *2016*
University of the West Indies, St. Augustine, Trinidad and Tobago.

- 3.68 GPA, with First Class Honors (1:1).
- Faculty of Engineering, Dean's Honor Roll 2016.
- Member of the University of the West Indies Computing Society.

TECHNICAL SKILLS

Programming Languages: VHDL,Verilog,Python,C,C++,SQL, Javascript,Linux Shell
Frameworks and Libraries: FreeRTOS,UCosII,Flask,Node.js
Tools:Git ,Docker,Eclipse,AWS(EC2,Dynamo),GCC,GDB,Vivado,Keil, Libero, Matlab,Yocto,Buildroot,Altium
Hardware: PIC,STM32,ARM Cortex-M3, FPGA,Computer Architecture,Oscilloscope,Logic Analyzer,JTAG
Technical: SPI,I^2C,UART,Validation/Verification,PCB Layout, DevOps, CI/CD, IoT,Artificial Intelligence,Linux Driver Development, Firmware Development,MQTT

EXPERIENCE

Teaching Assistant, University of Colorado, Boulder, Colorado *2023-Present*

- Teaching Assistant for ECEN 5863: Programmable Logic Embedded System Design (2023)
- Teaching Assistant for ECEN 5783: Embedded Interface Design (Jan 2024 - current)
- Graded students assignments,projects and assisting them with theory related to programmable logic design,FPGAs etc.

Software Engineering Intern, Amazon, Seattle, Washington *Summer 2023*

- Fixed UI bugs relating to accessibility issues within the details page of a series or title
- Developed a fully functional auto-playable trailer on the details page within the Prime Video Android Application.

Full Stack Software Engineer, Digicel, Port-of-Spain, Trinidad and Tobago *2017 - 2022*

- Developed, deployed, and supervised full stack web and mobile applications to optimize processes internal and external to the company.
- Created numerous web and mobile applications and scripts to manage sales workflows across mobile, internet and security lines of the business reducing the overall human effort.
- Oversaw projects and evaluations of summer interns from the University of the West Indies.

PROJECTS

Real-Time Unique Second Frame Detection System *06/2023 - 08/2023*

- Developed a C-based ,multi -threaded, real-time system running on Linux with realtime extensions for discerning unique second frames from a camera feed.
- Consisted of a frame capture frame differencing and frame dumping services controlled by a sequencer service and semaphores to implement a rate monotonic based system.
- The system was deployed on a Raspbian based Raspberry Pi 3b+ and utilized V4L2 and a Logitech C270 webcam for frame capture

Wearable Fitness Tracker *03/2023 - 05/2023*

- Developed a C based fitness wearable on the PIC24128GA705MCU which collected blood oxygen levels,heart rate, accelerometer and GPS positioning.
- Photoplethysmography, signal conditioning,ADC and auto-correlation were used to obtain bpm,SpO_2 measurements from IR/Visible light sensors.

Digital Nutritional Weight Scale with Bluetooth Connectivity (Senior Project) *08/2015 - 3/2016*

- A load cell was used for the scale along with a PIC16F1786 microcontroller and a HX711 Module for interfacing.
- A Java based android application was developed to connect to the MCU via a bluetooth module which was connected via UART. Firmware for the PIC was written fully in C (XC8 compiler)
- The nutritional value of the food being weighed would be obtained and displayed using the weight on the scale and nutritional data obtained via a REST API service.