JORGE MINJARES

El Paso, TX | (915) 228-5646 | jminjares5@miners.utep.edu | LinkedIn: jorge-minjares | GitHub: JorgeMinjares

EDUCATION

Bachelor of Science in Electrical Engineering **Expected:** Fall 2023
The University of Texas at El Paso (UTEP) GPA: 3.39/4.00
Master of Science in Computer Engineering (Fast Track) **Expected:** Fall 2024
The University of Texas at El Paso (UTEP)
Course work: Software Design 1, Microprocessor Systems 1, Microprocessor Systems 2, Electronics 1

TECHNICAL EXPERIENCE

Sandia National Laboratories (SNL) Albuquerque, NM
R&D Undergraduate Intern Jun. 2023 – Present

- Assessed FPGA boards to determine their suitability for project requirements
- Improved project documentation by implementing Markdowns to enhance clarity and readability
- Developed a Python script to read GPS streams for sensor deployment on Raspberry Pi Zero
- Introduced asynchronous multi-channel scanning on Raspberry Pi 4 Model B

Aerospace Center (cSETR) El Paso, TX
Undergraduate Research Assistant Apr. – Dec. 2022

- Developed a 3U CubeSat with a multidisciplinary team of 5 members, leveraging strong collaboration and multitasking to meet deadlines
- Learned documentation system (Doxygen) to update existing software documentation
- Populated custom 2-layer printed circuit board (PCB) design and ensured functionality with oscilloscope and Digital Multimeter
- Assisted with payload firmware in C for ARM Cortex M microcontroller (TM4C123)
- Utilize version control software (Git) to update and keep track of software changes

TECHNICAL PROJECTS

UTEP El Paso, TX
Rover for Automated Soil Acquisition (RASA) Jan. 2023 – Present

- Leveraged MSP432 software development kit (SDK) to deploy real-time (FreeRTOS) software in C
- Developed Board Support Package (BSP) with Motors, Sensors, Bluetooth, and GPS modules drivers
- Wrote remote controller firmware using MicroPython for rapid software deployment
- Designed custom 2-layer remote controller (PCB) using EasyEDA with RP2040 microcontroller

UTEP El Paso, TX
Traffic Light Controller (TLC) Oct. – Nov. 2022

- Delivered custom embedded software for ESP32 in real-time (FreeRTOS) using C
- Created board support package (BSP) software to add layer of abstraction and reusability
- Designed custom 2-layer printed circuit board (PCB) using EasyEDA with LEDs, tactile button switches, passive buzzers, and microcontrollers
- Generated software documentation with documentation system (Doxygen)
- Utilized version control software (Git) and deployed documentation through GitHub pages

SKILLS

- Fluent in written and oral English and Spanish
- Extensive use of Microcontrollers and C
- Proficient in C/C++, Oscilloscope, Digital multimeter (DMM), version control (Git), and RTOS (FreeRTOS)
- Basic knowledge of Java, Python, Verilog, printed circuit board (PCB) design, and Doxygen
- Familiar with Assembly Language, Multisim, EasyEDA and LTspice