JORGE MINJARES

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EDUCATION

Master of Science in Computer Engineering — **Awarded:** Fall 2024
The University of Texas at El Paso (UTEP) — GPA: 3.55/4.00

Bachelor of Science in Electrical Engineering — **Awarded:** Fall 2023
The University of Texas at El Paso (UTEP) — GPA: 3.42/4.00

TECHNICAL EXPERIENCE

Sandia National Laboratories (SNL) — Albuquerque, NM
R&D Graduate Intern — Jan. 2024 – Present

- Developed Python scripts utilizing Pandas, Matplotlib, and Argparse to generate and analyze data from GUI interfaces
- Automated Jlink file creation with Python by leveraging dictionaries and file handling techniques
- Deployed over 35 boards efficiently using JSON, significantly reducing flash deployment times
- Conducted firmware testing, addressing over 8 issues and merging 8+ successful requests
- Enhanced project documentation on the wiki page, providing comprehensive user guides and feature instructions

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

- Evaluated FPGA boards to assess compatibility with project specifications
- Improved documentation clarity using Markdown, enhancing readability and accessibility
- Developed Python scripts to parse GPS streams for sensor deployment on Raspberry Pi Zero
- Implemented asynchronous multi-channel scanning on Raspberry Pi 4 Model B

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

- Collaborated with a multidisciplinary team to develop a 3U CubeSat, ensuring project milestones were met
- Updated existing software documentation using Doxygen to improve accuracy and completeness
- Assembled and validated custom 2-layer PCB designs using oscilloscopes and digital multimeters
- Contributed to payload firmware development in C for ARM Cortex M microcontroller (TM4C123)
- Utilized Git for version control, maintaining software updates and tracking modifications

TECHNICAL PROJECTS

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

- Developed real-time (FreeRTOS) software in C using MSP432 SDK
- Designed and implemented a Board Support Package (BSP) with drivers for motors, sensors, Bluetooth, and GPS modules
- Programmed remote controller firmware with MicroPython, accelerating development and deployment
- Engineered a 2-layer remote controller PCB using EasyEDA with RP2040 microcontroller

SKILLS

- Fluent in written and oral English and Spanish
- Extensive experience with microcontrollers and C programming
- 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