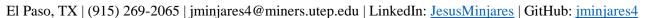
JESUS MINJARES





EDUCATION

Master of Science in Computer Engineering

The University of Texas At El Paso (UTEP)

GPA: 3.22/4.0

Awarded: Dec. 2020

Expected: May 2022

Bachelor of Science in Electrical and Computer Engineering

The University of Texas At El Paso (UTEP)

TECHNICAL EXPERIENCE

Center For Aerospace and Exploration Technology Research (cSETR)

El Paso, TX

GPA: 3.86/4.0

Graduate Research Assistant

Feb. 2022 – Present

- Develop a 3U CubeSat with a multidisciplinary team of 5 members, leveraging strong collaboration and multi-tasking to effectively meet deadlines
- Design, develop, implement, and test custom firmware various microcontrollers in C, C++, and Python
- Assist in designing custom drivers and hardware for space systems using Eagle
- Design API documentation for HAL drivers through Doxygen, provide proper software maintenance
- Test and debug hardware for different subsystems with an oscilloscope and function generator to verify functionality
- Utilize version control (git) to provide simultaneous work and keep track of all updates

Johns Hopkins University Applied Physics Laboratory (JHUAPL)

Laurel, MD

Wireless Cyber Capabilities (QKW) Intern (Secret Clearance)

May – Aug. 2021

- Developed and tested software at the physical layer using C, C++, and bash scripting to ensure highly reliable and efficient performance
- Assisted in a docker file for a custom environment to use gnuradio and optimized software development
- Developed algorithms for the IEEE802.11n protocol

TECHNICAL PROJECTS

Center For Aerospace and Exploration Technology Research (cSETR)

El Paso, TX

Robotic Arm 3U CubeSat Payload

Aug. 2021 – Present

- Design, develop, implement, and test 3U CubeSat payload firmware utilizing ARM Cortex M microcontrollers in real-time (FreeRTOS)
- Assist in a custom Hardware Abstraction Layer (HAL) driver API to reduce development effort for 6 CubeSat teams by establishing quick software deployment
- Assembled custom four-layer print circuit boards (PCB) designed in Eagle, utilizing proper testing procedures to verify functionality
- Implement payload communication through various protocols (CAN, I2C, UART, SPI) to communicate between CubeSats payloads

UTEP

El Paso, TX

Intelligent Portable Infrasound Array (IPIA)

Jan. - Dec. 2020

- Designed, developed, implemented, and tested custom embedded software in real-time (FreeRTOS) to meet latency constraints
- Read pressure sensor (DS-0091) at 100Hz, to avoid aliasing
- \bullet Built short-distance wireless communication via Bluetooth (HC-05 module) by sending packets through UART
- Designed custom GPS (SIM33EAU module) API by parsing serial data with NMEA protocol

SKILLS

- Bilingual in Spanish and English (written and oral)
- Extensive use of C, C++, ARM Cortex M4F microcontrollers, and Real-Time Operating System (FreeRTOS, TI RTOS)
- Proficient in Python, KiCad, EasyEDA, Eagle, and Git
- Familiar with Java, Rust, Multisim, and hardware testing (oscilloscope, function generator, multimeter)
- Basic knowledge of Docker, Verilog, and Assembly Language