JORGE MINJARES

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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

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

UTEP El Paso, TX
Remote-Controlled (RC) Car Feb. – Apr. 2022

- Delivered custom embedded software for MSP432 using C programming language
- Built short-distance wireless communication via Bluetooth (HC-05) by sending commands through Universal Asynchronous Receiver-Transmitter (UART) protocol
- Gained experience in version control software (Git) to update and keep track of software changes
- Learned Electronic Design Automation software (EasyEDA) to design custom 2-layer Printed-Circuit-Boards (PCBs) for Receiver and Transmitter

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