

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: 3.50/4.00

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. 2022 – Present

- 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 DMM
- Wrote 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

Traffic Light Controller (TLC)

Oct. – Nov. 2022

- Delivered custom embedded software for ESP32 in real-time (FreeRTOS) using C programming language
- 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
- Learned 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

UTEP

El Paso, TX

Digital Voltmeter

Jan. - Feb. 2022

- Developed and tested embedded system with an MSP432 that provided effective readings
- Displayed voltage readings through a Liquid Crystal Display (LCD) for visualization
- Delivered a 98% accuracy system, using a 14-bit Analog-to-Digital Converter (ADC) sampling at 100ms (10Hz)

SKILLS

- Fluent in written and oral English and Spanish
- Extensive use of Microcontrollers and C
- Proficient in 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