

Bryan Gonzalez

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EDUCATION

University of Texas at Arlington

B.S. in Computer Engineering

Involvement: FSAE Team Associate, UTA Color Guard Captain

Received Undergraduate Certificate for Embedded Systems

Spring 2026

Cumulative GPA: 3.1 | CSE GPA: 3.7

SKILLS & TECHNOLOGIES

- **Languages:** C/C++, Embedded C, System Verilog, Verilog, Java, Assembly, Python, HTML/CSS
- **Software/Tools:** Linux (Ubuntu), Windows, Xilinx Vivado, Code Composer Studio (CCS), KiCad, FreeRTOS, Keil uVision, Intel Quartus Prime
- **Hardware, Protocols, & additional skills :** STM32F446RE, TM4C123GXL, RealDigital Blackboard, DE10-Lite, I2C, SPI, CAN, NEC IR Protocol, AXI Bus, SOC Design, PCB Design and Assembly

PROJECTS

FSAE Accumulator Battery Monitoring System (BeeMS)

- Designed a cost-effective alternative to the Orion II BMS for the FSAE E27 racecar accumulator.
- Developed the voltage tap board for pack-side measurements using an MSPM0G3507 MCU and BQ7697204. The board sends cell data via CAN to a masterboard and is responsible for passive cell balancing as needed.
- Managed time-critical tasks using FreeRTOS in C++.
- Designed schematics and PCB layouts with KiCad.

Automated Guitar Tuner

- Developed an automated guitar tuner using an STM32 MCU and implemented the Cooley-Tukey FFT algorithm in Embedded C.
- Engineered bare-metal firmware to process microphone inputs and accurately drive a stepper motor for pitch correction.

I2C IP Module and Linux Driver

- Developed a custom I2C IP module in System Verilog for the Xilinx Blackboard.
- Configured and controlled the hardware module across an AXI bus.
- Wrote custom Linux kernel drivers in C to interface with and manage the IP module from the processor.

Embedded NEC IR Transceiver

- Developed a full-duplex IR communication system on a TM4C123GXL MCU using the NEC protocol.
- Implemented an interrupt-driven software architecture and custom hardware logic for precise IR emitter/receiver control.

8-Bit, Two-Function Calculator

- Designed a custom 8-bit, two-function hardware calculator in Verilog on an Intel DE10-Lite FPGA.
- Architected a dedicated arithmetic unit and integrated a multiplexed display for output readout.

EXPERIENCE

Olive Garden | Arlington, Texas

August 2019 – Present

To-Go Specialist

- Assist customers in placing and fulfilling takeout orders efficiently.
- Collaborate with team members to ensure seamless operations and high-quality customer service.
- Package, verify, and deliver orders in a timely manner.