Brandon Jiménez

Embedded Software Engineer

Caracas, Venezuela
+584143681174
Linkedin
brandonjimenez2994@gmail.com

PROFILE

Maker of creative and world-changing technology solutions, looking forward to enhancing products and contributing to the team, learning from others, and creating tested solutions with the best performance.

SKILLS

- C/C++, Python, Git, Bash, Matlab, Javascript, Typescript, and Dart.
- ESP32, RaspberryPi, STM32, AT2560(Arduino Mega), AT328(Arduino Uno), and PIC.
- FreeRTOS, TCP/IP, MQTT, RTSP, ONVIF, LoRa, WiFi, Ethernet, HTTP, Websocket, Bluetooth, MODBUS, RS485, UART, I2C, SPI,1-Wire, ADC, DAC, and At-commands.
- Encryption with AES and JWT.

PROFESSIONAL EXPERIENCE

Geoselfie **Remote**
Fullstack Engineer 05/21 - Current

- Image processing with OpenCV using C/C++, creating auto-generated documentation with Doxygen and CMake for control software compilation, and handling test files.
- Real-time PTZ cameras control using ONVIF protocol with Python, capturing images, moving camera position, and getting a streaming video through RTSP.
- Web server development in an embedded system, integrating temperature and humidity sensors with Python, providing data through an API.
- Deploy and test new features in AWS EC2 instance, using S3 Buckets for multimedia content.
- Integration of AI Models (previously trained) for image processing application with Python.
- Backend REST API development with NodeJS, and security with JWT.

Estelio **Caracas, Venezuela**
Firmware Engineer 10/19 - 05/21

- Development of an embedded web server in C/C++ in order to get access to the flash memory via web form attending to change variables dynamically for any project.
- Development of a WiFi Mesh Network's node with ESP32 using RTOS compatible with MODBUS (with RS485) or pulse output counter.
- Development of a library for managing LoRa Mesh ASIC in C/C++ using RTOS compatible with ESP32 microcontroller.
- Secure information of packages using AES encryption.
- Temperature bus managed with DS18B20 sensors using the 1-Wire protocol, sending the data through MQTT.
- Planning strategies for IoT project solutions.
- Hardware design in KiCad.
- Mobile app development with Bluetooth connection and Barcode scanner for a Cold Chain project.

Upverter **Remote**
Hardware Designer 01/20 - 03/20

- Create new components footprints in the Upverter Platform according to the client requirements.
- Work with components manufacturers' datasheets following the measures and instructions carefully.

Sovica Electronics **Caracas, Venezuela**
Electronic Engineer Intern 08/19 - 09/19

- Hardware development for a CNC machine that makes PCB. I used an Arduino Mega (AT2560) with GRBL firmware and the step motors driver IM483, I also adapted a DC motor (Milling task) with a source controlled by PWM.
- Design the PCB in Eagle software for the new board of the machine.

PROJECTS

Ecosmart **Caracas, Venezuela**
Liquid Soap Vending Machine 01/21 - 06/21

- Programmed in C/C++ using FreeRTOS, generating system documentation with Doxygen.
- Handle client requests with an Embedded Server with HTTP.
- Start dispensing using a Peristaltic pump connected to a DC motor.
- Measure the liquid soap dispensed through a load cell driver.
- Estimate system variables with the FOPWD method.
- Control system dispenses with PI controller.

Universidad Central de Venezuela **Caracas, Venezuela**
Fuzzy Logic Controller for the Quanser Ball and Beam System 11/19 - 11/20

- Implement a Fuzzy Logic and PD Controllers using C/C++ and RTOS.
- Extraction of angle and position values with ADC.
- Motor activation with DAC.
- Design of real-time testing through Matlab connected to the system via UART.
- Design of a Fuzzy Logic Controller with Matlab and simulating in Simulink.
- Optimization and implementation of a Fuzzy Logic Controller.

EDUCATION

Universidad Central de Venezuela **Caracas, Venezuela**
Electronic Engineer 10/15 - 12/21