ALVARO HUMBERTO QUIÑONEZ RODRÍGUEZ

Responsible person seeking not only to acquire new knowledge and skills, but to demonstrate the ones I already have gained during my academic development.

CONTACT

alvarohqr@gmail.com
+52 644 141 2961
Cd. Obregón, Sonora
@alvarohqr
Alvaro H. Quiñonez R.

SKILLS

Development

C
Python
C++
HTML/CSS
Matlab

Operating Systems

Windows
Linux
FreeRTOS

Software & Tools

Microsoft Office
Data handling/analysis (MySQL, MongoDB)
Git
Measuring Tools (Oscilloscope, Multimeter)

Embedded Systems

Arduino/ESP32
Raspberry Pi
TI MSP430

Languages

Spanish (Native)
English

REFEREES

PhD Ian Mateo Sosa Tinoco
Instituto Tecnológico de Sonora
erroba@gmail.com
+52 (644) 410-9000 Ext. 1782

Engr. Germán Paredes Zazueta
Pinnacle Aerospace, Cd. Obregon
german.paredes@pinnacleaerospace.com
+52 (644) 225-4448

EDUCATION

08/2014- 06/2019
Instituto Tecnológico de Sonora

B.S in Mechatronics Engineering
(General Average: 85/100)

09/2020- 10/2022 (Expected)
Instituto Tecnológico de Sonora

M.S. in Engineering
(General Average: 95/100)

MASTER COURSES

IoT Software | Ad Hoc Networks | AI/Neural Networks | Algorithm Analysis | Discrete Math | Distributed Systems | Embedded Systems and RTOS | Interactive Systems Design | Discrete Systems

PROJECTS

IoT Weather Station (Bacherlor's Thesis). Based on ESP32 as a central unit and the MQTT protocol to send data to a Raspberry acting as a broker. The received data is collected into a relational database and finally deployed in a dynamic website.

Smart Traffic Light System. Developed on the ESP8226 and FreeRTOS, there were a series of tasks (and queues to communicate them) to determine: the traffic status, the number of cars in each traffic light and the temperature on it, the distance between cars and allowing the operator to change the status bidirectionally between green and red. The amount of traffic and temperature are sent through MQTT to store them in a non-relational database, then displayed on a website.

Low-cost and Low-Power Air Quality and Weather Station (Masters Thesis). The previous thesis is optimized by migrating to an ultra low power MCU and LoRaWAN for the transmission. Thus, not only the energy consumption is optimized but also the system security. The data is received on The Things Network service then forwarded via MQTT to a local server on the Raspberry Pi.

SKILLS

Teamwork | Adaptability | Analytic Capability | Problem Solving | Critical Thinking | Fast Learner

CERTIFICATES

- Course IoT- ITSON Embedded Systems (2019): Python, MySQL and MQTT integration.
- Microcontroller Embedded C Programming: Absolute Beginners.
- Advanced C Programming Course.
- Applied Analytics Using SAS Enterprise Miner.