RAFAEL IGNACIO GONZALEZ CHONG

Electronics Engineer

Chihuahua, Mexico

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SUMMARY

Electronics engineer with hands-on experience coordinating technical teams, managing project implementation, and deploying solutions in international environments. Background in embedded systems, IoT, and field engineering. Proven ability to lead cross-functional teams and align technical deliverables with business goals. Seeking technical coordinator or implementation roles in international organizations.

EXPERIENCE

IMPLEMENTATION & SYSTEM INTEGRATION ENGINEER   **Sep 2025 – Dec 2025**
IMTECH DESARROLLOS   *Chihuahua,* Mexico
• Led integration of embedded platforms (MSP430, RSL10) in C.
• Defined firmware–hardware validation workflows with PLC test benches, PCBs, and schematics.
• Mentored junior engineers and advised on operational improvements.
• Collaborated with management to align technical solutions with business goals.
Tools: UART, SPI, I2C, PLC test benches, PCBs, schematics, Git, integration workflows

ELECTRICAL ENGINEER INTERN   **Jan 2025 - Jun 2025**
BALSAS GMBH   *Erfurt, Germany*
• Supported residential electrical renovations per DIN VDE standards.
• Coordinated on-site teams, schedules, and materials; resolved technical issues.
• Ensured inspection compliance and installation quality.
Tools: Electrical tools, DIN VDE 0100, DIN VDE 0105

HARDWARE IMPLEMENTATION ENGINEER   **May 2024 - Oct 2024**
FAHR ELECTRONIC SYSTEMS   *Chihuahua, Mexico*
• Developed and integrated embedded platforms (ESP32) using MicroPython, implementing LoRa, BLE, and OTA updates.
• Performed real-time image recognition and validated sensor data in client prototypes.
• Documented firmware architecture, PCB layouts, and system functionality for deployment.
• Supported field debugging, system upgrades, and end-to-end testing.
Tools: ESP32, MicroPython, LoRa, BLE, OTA, UART, SPI, I2C, Git, PCBs, schematics

QA TECHNICIAN   **Nov 2023 - May 2024**
GM&T ENGINEERING, INC   *Chihuahua, Mexico*
• Performed more than 50 wiring harness tests daily meeting OEM standards.
• Executed validation procedures and documented defects for manufacturing teams.
• Maintained 98 percent first-pass yield through consistent quality assurance.
Tools: Wiring harness testers, multimeter, ISO TS 16949.

ELECTRONICS TECHNICIAN   **Jan 2023 - Nov 2023**
FAHR ELECTRONIC SYSTEMS   *Chihuahua, Mexico*
• Assembled and tested more than 10 IoT PCB prototypes used in field environments.
• Troubleshot installations and reduced debugging time by 25 percent.
• Supported improvements in PCB layout and assembly processes.
Tools: Oscilloscope, soldering tools, IoT sensors.

EDUCATION

UNIVERSITY OF TEXAS AT AUSTIN   **Jul 2025 - Aug 2025**
CERTIFICATE, GLOBAL SUMMER INSTITUTE (BIG DATA & AI)   *Austin, USA*
• Completed 120 hour program in Big Data, Python, and AI fundamentals under Fulbright COMEXUS Scholarship.
• Built predictive analytics models with Python, R, TensorFlow, PyTorch, achieving 80% accuracy
• Collaborated in international teams, presenting technical findings in English

CHIHUAHUA INSTITUTE OF TECHNOLOGY   **Aug 2020 - Dec 2024**
B.SC. IN ELECTRONIC ENGINEERING (MINOR IN INTELLIGENT EMBEDDED SYSTEMS)   *Chihuahua, Mexico*
• GPA: 90.83/100
• Relevant Courses: Real-Time OS, FPGA and SoC Systems, DSP, Microcontrollers, PLC, Power Electronics, Embedded Systems Design
• Leadership & Activities: IEEE Student Branch, Student Society, Electronic Engineering Commission; coordinated Top Business Leader Diploma program

PROJECTS

• IoT Sensor Data Pipeline Integrated an end-to-end IoT solution with MQTT, PostgreSQL, Node.js backend, and real-time dashboard.
• AI Chatbot Python NLP assistant for automated responses.
• Board Support Package (BSP) for ESP32 and PIC18F4550 microcontrollers.
• Digital AC Motor Controller ESP32 Implemented PID-based AC motor controller with encoder feedback on ESP32.
• Real-time facial emotion recognition using Streamlit, OpenCV, and the FER model.

SKILLS

• **Soft Skills:** Problem solving, adaptability, teamwork, communication, coordination, client support, documentation, Agile
• **Embedded & Firmware:** C, C++, MicroPython, FreeRTOS, UART, SPI, I2C, ADC, sleep modes, PCB, Schematics
• **IoT & Connectivity:** MQTT, HTTP REST, AT commands, cellular IoT
• **Field & System Integration:** Hardware bring-up, interface validation, field testing, DIN VDE standards, wiring, inspections
• **Testing & Troubleshooting:** Oscilloscope, multimeter, harness testers, Siemens PLC test benches
• **Software & Data:** Python, TensorFlow, PyTorch, pandas, NumPy, MATLAB, R
• **Backend & DevOps Tools:** Node.js, PostgreSQL, Docker, Git, Linux, VS Code, CCS, Code Composer Studio, Vivado
• **Languages:** Spanish (native), English (C1), German (A2)

CERTIFICATIONS

• **Project Management:** PMI Project Management Foundations, Lean Six Sigma White Belt
• **Data & Analytics:** Power BI Essentials, Power BI Dataflows, Azure AI Essentials
• **Cloud & AI:** Microsoft Azure Fundamentals (AZ-900), Azure AI Essentials
• **Cybersecurity:** CompTIA Security+ (SY0-701, in progress)
• **Software Development:** Node.js, .NET MAUI Foundations
• **Languages:** English (C1 – Duolingo 120/160)