Rafael Ignacio Gonzalez Chong

Electronics Engineer

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SUMMARY

Electronics Engineer with experience supporting customers across pre sales, implementation, and post deployment phases. Strong background in embedded systems, field integration, and technical demonstrations. Proven ability to translate customer needs into feasible technical solutions and support sales teams with validation, demos, and cross functional coordination in international environments.

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
- Developed cross cultural communication and technical negotiation skills in an international environment

CHIHUAHUA INSTITUTE OF TECHNOLOGY — Aug 2020 - Dec 2024
B.SC. IN ELECTRONICS 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

EXPERIENCE

SYSTEMS INTEGRATION ENGINEER — Sep 2025 – Dec 2025
IMTECH DESARROLLOS — *Chihuahua, Mexico*
- Integrated embedded platforms (MSP430, RSL10) into customer facing systems using C.
- Translated customer and business needs into validation, deployment workflows, and KPIs.
- Supported technical alignment, delivery execution, and onboarding of junior engineers.
Tools: Excel, UART, SPI, I2C, PLC test benches, PCBs, schematics, Git

ELECTRICAL ENGINEER INTERN — Jan 2025 - Jul 2025
BALSAS GMBH — *Erfurt, Germany*
- Supported residential electrical renovation projects under DIN VDE regulations.
- Coordinated on site activities with customers, inspectors, and contractors.
- Assisted in resolving installation issues to meet inspection, safety, and delivery requirements.
- Ensured documentation and compliance during project handover.
Tools: Electrical tools, DIN VDE 0100, DIN VDE 0105

SOLUTIONS ENGINEER — May 2024 - Jan 2025
FAHR ELECTRONIC SYSTEMS — *Chihuahua, Mexico*
- Implemented ESP32 embedded solutions using MicroPython with LoRa, BLE, and OTA.
- Delivered customer facing demos, prototype validation, and requirement-to-solution translation.
- Supported field debugging, end to end testing, and technical documentation for deployment and handover.
Tools: ESP32, MicroPython, LoRa, BLE, OTA, UART, SPI, I2C, Git, PCBs, schematics

QA TECHNICIAN — Nov 2023 - May 2024
GM&T ENGINEERING, INC — *Chihuahua, Mexico*
- Executed wiring harness validation according to OEM and ISO TS 16949 standards.
- Documented defects and supported root-cause analysis with manufacturing teams.
- Maintained 98% first-pass yield through disciplined quality execution.
- Supported continuous improvement initiatives to reduce defects and rework.
Tools: Wiring harness testers, multimeter, ISO TS 16949.

SALES EXECUTIVE — Jun 2023 - Nov 2023
STEREN MEXICO — *Chihuahua, Mexico*
- Advised customers on electronic and technical products based on functional requirements and use cases.
- Translated customer needs into suitable technical solutions, improving repeat purchases by approximately 8%.
- Supported pre sale product selection and basic troubleshooting for electronic components and systems.
- Strengthened communication and consultative selling skills in a high volume, customer-facing environment.
Tools: POS systems, product catalogs, CRM basics, technical datasheets.

ELECTRONICS TECHNICIAN — Jan 2023 - Jun 2023
FAHR ELECTRONIC SYSTEMS — *Chihuahua, Mexico*
- Assembled and tested IoT PCB prototypes for field and pilot deployments.
- Supported troubleshooting during installations, reducing debugging time by 25%.
- Collaborated with engineering teams on PCB layout and assembly improvements.
- Assisted during prototype validation and customer acceptance stages.
Tools: Oscilloscope, soldering tools, IoT sensors.

PROJECTS

- **IoT Sensor Data Pipeline** Designed and validated an end to end IoT solution based on customer requirements, including data ingestion, backend services, and real time dashboards..
- **AI Chatbot** Python based NLP assistant for automated responses and support workflows.
- **Board Support Package (BSP)** for ESP32 and PIC18F4550 microcontrollers.
- **Digital AC Motor Controller ESP32** PID based AC motor control system with encoder feedback on ESP32.
- **Real-time facial emotion recognition** Real time application using OpenCV, Streamlit, and FER model.

SKILLS

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

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)
- **Software Development:** Node.js, .NET MAUI Foundations
- **Languages:** English (C1 – Duolingo 120/160)