Cristian Salitre

+1(828) 808-3936 | salitrecristian@gmail.com | linkedin.com/in/cristian-salitre | cristiansalitre.com

Summary

Software engineer with 1+ year of experience in embedded systems development. Currently working on computer vision integration and firmware R&D projects @Honeywell, with previous intern experience @Oxit developing applications and technical documentation for multi-connectivity systems.

Experience

Honeywell Charlotte, NC
Software Engineering Intern *June 2025 – Present*

- Deployed a YOLOv8-based object detection pipeline to an all-in-one embedded smart camera, enabling real-time, standalone inference and replacing a legacy multi-component setup.
- Integrating Ollama vision-language model with Vimba X SDK camera drivers for on-device real-time VLM inference and post-processing.
- Evaluating the NXP i.MX93 SoC (Arm Cortex-A55/M33) for potential integration in Honeywell's barcode scanning systems; analyzing Zephyr RTOS compatibility and camera interface feasibility.

Oxit Charlotte, NC
Embedded Software Engineering Intern *March 2025 – June 2025*

- Redesigned and updated user manuals, datasheets, and spec sheets for Multi-Connectivity Module (MCM) EVK, cross-referencing schematics to verify GPIO mappings, power specifications, and sensor components for accuracy.
- Implemented visual dashboard on ESP32-S2/S3 Feather TFT for LoRaWAN/Sidewalk dual-connectivity application, displaying real-time connection status, protocol modes (BLE/FSK/CSS), signal measurements (RSSI/SNR), and sensor data to replace serial monitor dependency.
- Conducted extensive research and hands-on work with SX1262 radio, Silicon Labs EFR32MG24 MCU, and various flashing/debugging tools (SWD, JTAG, ST-Link).

Skills

Protocols & Interfaces: LoRaWAN, BLE, I2C, SPI, UART, SWD, MIPI-CSI
Platforms & RTOS: ARM Cortex-A55/M33, Zephyr RTOS
Languages: C/C++/C#, Python, MATLAB, Bash
Tools: Vimba X, Git, ESP-IDF, PyTorch, OpenCV, Pylon, Streamlit

Projects

Asset Tracking and Anti-theft System - Senior Design Project January 2024 – December 2024

- Developed dual-core ESP32-S3 firmware using ESP-IDF with real-time I2C peripheral control, BLE communication protocols, and interrupt-driven security breach detection system.
- Developed Flutter-based Android application for wireless device management with real-time data monitoring and control interface.
- Co-designed 2-layer PCB in Altium Designer with size and cost optimization. Successfully delivered complete system PoC to industry sponsor DP Containers following year-long development cycle.

Brain Tumor Segmentation with CNNs April 2024 – May 2024

- Developed CNN encoder-decoder models for automatic brain tumor detection in MRI scans. Demonstrated that simpler architectures achieved better segmentation performance than complex ResNet models on medical imaging data.

Education

North Carolina State University Raleigh, NC
Master of Science in Electrical Engineering *Expected – May 2027*

University of North Carolina at Charlotte Charlotte, NC
Bachelor of Science in Computer Engineering — ML Concentration *December 2024*