

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 projects @Honeywell, with previous intern experience @Oxit developing applications and technical documentation for multi-connectivity systems.

EXPERIENCE

Honeywell <i>Advanced Application Engineer</i>	Charlotte, NC June 2025 – Present
<ul style="list-style-type: none">Integrated Allied Vision smart camera with Honeywell’s AI vision software using the Vimba X SDK; experimented with vision-language models (VLMs) like Ollama and object detection models such as YOLOv8.Developing a flexible vision pipeline enabling smart camera input to interface with various AI models; leveraging OpenCV and PIL for preprocessing, and PyTorch for hardware-accelerated inference.Evaluating the NXP i.MX93 SoC (Arm Cortex-A55/M33) for barcode scanning use cases; analyzing Zephyr OS support and camera interface compatibility to design custom HALs for customers.	
Oxit <i>Embedded Software Engineering Intern</i>	Charlotte, NC March 2025 – June 2025
<ul style="list-style-type: none">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:	I2C, SPI, UART, SWD, MIPI-CSI, LoRaWAN
Platforms & RTOS:	ARM Cortex-A55/M33, Ti-MSP430, ESP32, Zephyr OS
Languages:	C/C++/C#, Python, MATLAB, Bash
Tools:	Git, ESP-IDF, PyTorch, OpenCV, Vimba X, tinygrad

PROJECTS

Asset Tracking and Anti-theft System - Senior Design Project	January 2024 – December 2024
<ul style="list-style-type: none">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.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 Machine Learning	April 2024 – May 2024
<ul style="list-style-type: none">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.	

SELF-DIRECTED LEARNING

MIT OpenCourseWare <i>Machine Learning for Inverse Graphics (6.S980)</i>	Remote Fall 2025
<ul style="list-style-type: none">Learning about 3D scene understanding, neural rendering, and how to use machine learning to infer the structure of the physical world from images, utilizing Numpy, PyTorch, and Jax.	

EDUCATION

North Carolina State University <i>Master of Science in Electrical Engineering</i>	Raleigh, NC Expected – May 2027
University of North Carolina at Charlotte <i>Bachelor of Science in Computer Engineering – ML Concentration</i>	Charlotte, NC December 2024