ISAAC INGRAM

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WORK EXPERIENCE

Co-Op, Software Engineering | Eoptic   📅 May 2025 - Current

- Architect and develop various embedded systems to meet customer requirements
- Design custom PCBs to handle domain-specific applications
- Integrate embedded devices with message brokers to make them available to other apps

ESP-IDF ROS KiCAD MQTT

Co-Op, Application Software | Collins Aerospace   📅 May 2023 - April 2025

- Lead creation of a customer-facing desktop app for configuring avionics hardware
- Lead development of an automated CI/CD tool for finding library compatibility issues within the company-wide codebase, and work with the tools team to delegate future improvements
- Create various scripts and apps to automate tasks and check requirements, significantly reducing development time

Flask Python Selenium C Requirements Management

Independent Contractor | MakePlus   📅 September 2023 - January 2024

- Write embedded motor control software for custom lighting fixtures in a music studio
- Conceive a secure, mesh wireless network so any number of fixtures can receive commands
- Remotely manage software development, collaborating with mechanical and electrical teams to meet customer requirements and deadlines

ESP-NOW ESP32 Qt Raspberry Pi OS

PROJECTS

Bits 'n Bytes | ComputerScienceHouse/bits-n-bytes-embedded

- Develop sensor drivers to enable real-time recognition of user interactions with kiosk stock
- Establish an efficient data aggregation system to interpret data from over 20 sensors, 2 cameras, and a variable number of microcontrollers in the kiosk in real-time
- Lead a team of 10+ students, assigning tasks, securing funding, managing timelines, and contributing to software development

C ESP-IDF CV/YOLO Raspberry Pi Embedded Linux

Computer Science Mouse | IsaacIngram/computer-science-mouse

- Create a highly efficient embedded system for sharing the status of 10+ connected mouse traps to a local dashboard over a mesh network
- Integrate a serverless AWS backend to handle requests from IoT devices when they connect to internet
- Work with Twilio to dispatch status updates to clients

C ESP-IDF AWS Boto3 Twilio Mesh Networking

EDUCATION

BS Computer Science Rochester Institute of Technology

🎓 May 2026   📍 Rochester, NY

Coursework in Data Management, Algorithms, Artificial Intelligence, Physics, and Computer Vision

LANGUAGES

C Python Java C++

TECHNOLOGIES

ESP-IDF Qt Raspberry Pi OS
FreeRTOS Git SVN Jama
DOORS Coverity

ACTIVITIES

Computer Science House
🌐 csh.rit.edu

- Chair 📅 June 2025 - Present
  - Oversee house operations, running 3+ weekly meetings for over 80 active members
  - Secure donations from companies and alumni members
- Member 📅 August 2022 - Present
  - Living-learning community focused on sharing technical skills and knowledge
  - Empower and collaborate with other members on self-driven projects

Sigma Chi | Lambda Kappa
🌐 sigmachirit.com

- Webmaster 📅 April 2024 - May 2025
  - Maintain chapter website, mailing lists, and google workspace for hundreds of actives and alumni
- Brother 📅 March 2023 - Present
  - Cultivate principles of friendship, justice, and learning with brothers
  - Host and attend philanthropy events to raise over $40,000 for the Huntsman Cancer Institute