

ISAAC INGRAM

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OBJECTIVE

To find a Summer 2024 co-op/internship in embedded development.

EDUCATION

BS Computer Science | [Rochester Institute of Technology](#)

📅 Expected December 2026

📍 Rochester, New York

Coursework in CS Theory, Artificial Intelligence, and Differential Equations.

WORK EXPERIENCE

Software Engineering Co-Op | [Collins Aerospace](#) 📅 May 2023 - Present

- Write low-level libraries and drivers to support avionics application development
- Develop a new SITL testing framework to significantly reduce development time within the Avionics Platform Software department
- Create scripts to automate documentation tasks, boosting team productivity

Embedded Systems

Avionics

Requirements Management

Independent Contractor | [MakePlus](#) 📅 September 2023 - January 2024

- Write embedded motor control software for a custom home automation application
- Develop a secure mesh network so client devices can receive commands
- Create an intuitive and customizable user interface to control multiple devices

ESP-NOW

Qt

Raspberry Pi OS

PROJECTS

Bits N' Bytes | [🌐 ComputerScienceHouse/imagine2024-embedded](#)

- Write sensor drivers to enable real-time recognition of user interactions with kiosk stock
- Develop a data aggregation system to quickly interpret a large amount of load cell and vision data coming from multiple microcontrollers in the kiosk
- Implement a reliable user interface to display the user's cart and kiosk status

C

ESP-IDF

Qt

Raspberry Pi OS

SproutChaperone | [🌐 IsaacIngram/SproutChaperone](#)

- Detect and display current moisture level of plants on a user-friendly LCD
- Constantly report data to a remote server for long-term logging and analysis
- Display data remotely through a comprehensive DataDog dashboard

C++

Arduino

DataDog

Rapid React Robot

[🌐 CommandoRobotics/FRC_Rapid_React_2022](#)

- FIRST Robotics Competition robot winning the **Innovation in Control Award**
- Develop complex control algorithms to ensure accurate path-following and safe control of all mechanical systems

Java

Arduino

Computer Vision

PID

Feedforward

LANGUAGES

C

Java

Python

TECHNOLOGIES

ESP-IDF

Qt

Raspberry Pi OS

FreeRTOS

Git

Subversion

Jama

DOORS

Coverity

ACTIVITIES

Sigma Chi | Lambda Kappa
[🌐 sigmachirit.com](#)

- Brother 📅 March 2023 - Present
 - Cultivate principles of friendship, justice, and learning
 - Host and attend philanthropy events to raise money for the Huntsman Cancer Institute

Computer Science House
[🌐 csh.rit.edu](#)

- 3D Administrator 📅 January 2023 - Present
 - Manage and repair 3D printers
 - Assist other members in design-ing, slicing, and manufacturing 3D printed parts
- Member 📅 August 2022 - Present
 - Living-learning community focused on sharing technical skills and knowledge
 - Empower and collaborate with other members on self-driven projects

FIRST Robotics

[🌐 firstinspires.org](#)

- Team Captain 📅 September 2021 - March 2022
 - Shape overall team trajectory
 - Schedule and run team meetings
- Lead Programmer 📅 September 2020 - March 2022
 - Manage codebase to ensure working code is constantly available for hardware teams
 - Organize and complete programming tasks
 - Teach and inspire younger students to code