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**
- Use computer vision for robot localization and an automated targeting system based on computed projectile mechanics
- 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

Computer Science House
csh.rit.edu

- 3D Administrator — January 2023 - Present
  - Manage and repair 3D printers
  - Assist other members in designing, 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
  - Schedule and run meetings
  - Solicit team feedback and shape overall trajectory
  - Establish and maintain timelines to ensure timely completion of the project
- Lead Programmer — September 2020 - March 2022
  - Manage codebase to ensure working code is constantly available for hardware teams
  - Organize and complete programming tasks to meet overarching project timeline
  - Teach and inspire younger students to code