

ISAAC INGRAM

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WORK EXPERIENCE

Intern, Application Software | [Collins Aerospace](#) 📅 May 2024 - Current

- Integrate a new IO framework into the next-gen avionics environment
- Develop an automated tool for finding library compatibility issues within a large codebase
- Run manual inspection tests on the EICAS codebase to verify untestable requirements

Embedded Applications Avionics Requirements Management

Co-Op, Framework Software | [Collins Aerospace](#) 📅 May 2023 - May 2024

- 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 LVGL 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

EDUCATION

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

📅 May 2026 📍 Rochester, NY

Coursework in Data Management, Algorithms, Artificial Intelligence, and Differential Equations

LANGUAGES

C Python Java C++

TECHNOLOGIES

ESP-IDF Qt Raspberry Pi OS

FreeRTOS Git SVN Jama

DOORS Coverity

ACTIVITIES

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

- Webmaster 📅 April 2024 - Present
 - Maintain chapter website and mailing lists
 - Administer chapter Google accounts and drive
- 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 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