# Collin Bolles

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## Intro

Senior Computer Science student graduating May 2022, looking for a full-time opportunity starting in Summer 2022. Main interests in embedded and systems level programming.

## Skills and Proficiency

### Languages

| | |
|---|---|
| ARM Assembly | ●○○○○ |
| C | ●●●●○ |
| C# | ●●●○○ |
| C++ | ●●●○○ |
| HTML/CSS | ●●●●○ |
| Java | ●●●●● |
| JavaScript | ●●●○○ |
| Python | ●●●●● |
| Rust | ●●●○○ |

### Frameworks and Libraries

| | |
|---|---|
| Django | ●●●○○ |
| Flask | ●●●○○ |
| Mbed | ●●○○○ |
| Node.js | ●●●○○ |
| React.js | ●●●○○ |
| Requests | ●●●●○ |
| Spring Boot | ●●●○○ |

### Tools and Environments

| | |
|---|---|
| AWS | ●○○○○ |
| Azure | ●●○○○ |
| Git | ●●●●○ |
| Google Cloud | ●●●○○ |
| LaTeX | ●●●○○ |
| Linux | ●●●●○ |
| Mac OS | ●●●●○ |
| Maven | ●●●○○ |
| Vim | ●●●○○ |
| Windows | ●●●○○ |

### Awards

**Best IoT Hack** · *Publicis Sapient*
**UB Hacks 3rd Place Award** · *UB Hackathon Group*
**Congressional App Challenge Winner** · *NY Congressional District 21*

## Education

**Rochester Institute of Technology**
**B.S. Computer Science**
GPA 3.85/4
Expected Graduation: May 2022

## Employment

**D3 Engineering** · Engineering Technician — Jan. 2021 to Dec. 2021
- Developed Linux Kernel drivers for cameras designed for embedded vision on the NVIDIA Jetson platform
- Populated Linux device trees for newly designed hardware
- Add features to NVIDIA Linux Kernel to expand camera platform capabilities
- Solved hardware and software bugs using Linux and hardware analysis tools on custom hardware
- Tools and Technology: C, Python, Linux Kernel, Git, Gerrit

**Herrick Technology Labs** · Software Intern — Sep. 2020 to Dec. 2020
- Worked on an inter-disciplinary team tasked with producing a multi-faceted sensing solution for US military avionics
- Wrote libraries to communicate with HTL radio solutions over a range of protocols including TCP over Ethernet and UART
- Optimized radio based object tracking algorithm leveraging GPU based hardware acceleration
- Tools and Technology: C++, Python, Git, Cuda

**Blue Spiral** · Software Developer — June 2020 to Aug. 2020
- Wrote iOS application for on-the-spot employee performance reviews using SwiftUI
- Updated existing image processing pipeline to use the newest Azure OCR API
- Developed software to detect vegetation levels from done footage
- Tools and Technology: C#, Swift, Python

**Ball Bowler** · Software Developer — Jan. 2019 to Nov. 2019
- Designed and developed a UI for a miniature bowling lane
- Implementing scoring logic and user interface on a LattePanda single board computer
- Captured state of bowling pins using computer vision
- Tools and Technology: Java, JavaFX

**Blue Spiral** · Software Intern — Aug. 2017 to Aug. 2018
- Developed object detection training pipeline built on top of Tensorflow
- Applied object detection pipeline for the detection of unwanted ducks
- Incorporated object detection pipeline with the Microsoft Hololens
- Tools and Technology: C#, Python, C++, Tensorflow

**Valogix** · Software Intern — July 2016 to Nov. 2018
- Implement a system level automated testing suite for Valogix web application
- Produced custom web API incorporated into Valogix's servers for system health information
- Developed a web application for keeping track of the over 100 deployed applications
- Resolved bugs and incorporated features in the existing Valogix code base
- Tools and Technology: Java, Spring, Spring Boot, PostgreSQL, Groovy

## Activities

**Electric Vehicle Team**
Firmware Lead — May 2020 to Present
Firmware Member — Dec. 2018 to May 202
- Develop a custom software library for developing firmware on EVT produced hardware (EVT-core)
  - Produce object oriented based software layed on top of the STM32 Hardware Abstraction Layer (HAL)
  - Wrote drivers to support various communication protocols in EVT-core including CAN, UART, I2C, and PWM
- Designed and developed firmware for the EVT produced battery management system
- Added support for CANopen to EVT-core for communication across the motorcycle systems
- Develop drivers for communicating with Sendyne GFD, TI battery management chip, and STM32 peripherals