Wesley Aptekar-Cassels

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SKILLS

C++
Python
Robotics
Web Development

EXPERIENCE

Citrus Circuits Robotics Team, Programmer
Davis, CA — 2014-2017

- Created embedded software to control mobile robots, winning world championship robotics competition
- Worked to implement unit testing and code review as standard process
- Created systems of applications to collect data on other competing robots

Foodfully, Embedded Software Intern
Davis, CA — 2015-2016

- Worked with electrical and mechanical engineers to support design and development of a internet-connected smart device
- Wrote firmware and server code to support a fleet of experimental devices.

Recurse Center
New York, NY — July-September 2017 (anticipated)

- Implemented a simple operating system
- Designed, built and programmed a robot
- Wrote a program to use computer vision to play the card game Set
- Wrote a raytracer in Rust

PROJECTS

Citrus Circuits Robot Code (github.com/frc1678/robot-code-public)

I worked to create the framework that we used to develop new robot code, saving time by abstracting away much of the boilerplate code that we had. I also implemented unit testing for the first time on our team, allowing us to finish the majority the software before we have hardware to run it on.

Subprojects that I lead include:

- A logging system to automatically log all messages passed through the code
- A web dashboard to change settings and view live sensor data
- Automatic detection and adaption of sensor failure

Foodfully Embedded Firmware + Server

I wrote firmware for an internet connected smart device in C, along with a server in Node.js to aggregate data from multiple devices. I worked closely with the hardware team to ensure that the device would be capable of meeting the software requirements.

Subatomic - Simple x86 operating system (https://github.com/wesleyac/subatomic)

I designed and wrote a simple x86 operating system in Rust, featuring a keyboard driver, serial driver, VGA driver, and page allocator.

Balancing Robot (http://blog.wesleyac.com/posts/balancing-robot)

I designed, built, and programmed a two wheeled balancing robot. It was designed using a custom parametric CAD system, and programmed in C++ using a simple PID controller.