

Joseph Ryan

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Education

The University of Texas at Austin - Cockrell School of Engineering

BS in Electrical and Computer Engineering - GPA: 3.48

Austin TX

May 2021

Experience

Vectra AI - Software Engineering Intern

June 2018–August 2018

- Developed an extensible automation framework to run security hardening and compliance scanners against Vectra's servers
- Collaborated with security team to resolve vulnerabilities and bugs unveiled by scans
- Designed and implemented a tool for managing virtual machines which simplified developer workflow and improved automated testing and builds

STEM Summer Camp - Teacher and Counselor

July 2016–August 2017

- Mentored elementary through high school students during week long courses
- Taught basic circuitry, microcontroller programming (Arduino-C++), Android app development (Android Studio-Java), robotics (C++), and object oriented programming (Python)

FIRST Robotics - Team Lead/Head Programmer

August 2015–June 2017

- Directed 10 developers on multiple software projects
- Managed long term projects as an elected board member
- Used version control, continuous integration, and unit testing with multiple languages

Projects

The Elements of Computing Systems

HDL, ASM, Jack, Python

- Audited an online course on computer architecture, assembly, and compilers
- Completed projects including a CPU simulated with HDL, an operating system, a compiler, a virtual machine translator, and an assembler

Genetically Evolving Neural Networks

C++, Python

- Implemented a machine learning solution for real-time, continuous controllers
- Used a combination of neural networks and genetic algorithms for competitive training

PineapplePad

C++, ARM Assembly

- Designed and developed a microcontroller based video game with a partner
- Voted "Best Design" in embedded systems class-wide competition

PacBot

C++, Python

- Designed a fully autonomous, omnidirectional robot with size and budget constraints in a 10 person team
- Wrote custom drivers for high precision hardware to accurately track robot position

Technical Skills

Programming Languages: Proficient in Python, C, and C++

Familiar with ARM Assembly, Java, Ruby, and Rust

Other: Proficient in Linux, Git, Markdown, and Jenkins

Familiar with Make, OpenCV, Protobuf, and \LaTeX