

Joseph Ryan

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in Joseph-B-Ryan • 🔄 P1n3appl3

Education

The University of Texas at Austin - Cockrell School of Engineering
BS in Electrical and Computer Engineering

Austin TX
May 2021

Experience

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
- Integrated libraries such as OpenCV for autonomous vision tracking

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)

Projects

Genetically Evolving Neural Network

C++, Python

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

The Elements of Computing Systems

HDL, ASM, Jack, Python

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

Handwritten Character Recognition

Python

- Wrote a machine learning digit classifier using a weighted kNN algorithm
- Increased accuracy of recognition on testing data to 98% while maintaining high performance

ACE FRC Robot

Java, Python, WPILib

- Met project deadlines in a 3 month testing and development cycle for international competition
- Developed successful algorithms for autonomous control of an omnidirectional robot using ultrasonic sensors and image recognition

Technical Skills

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

Other: Proficient in Git, Markdown, JUnit, and Arduino

Familiar with OpenCV, CMake, Gradle, Linux, and \LaTeX