Joseph Ryan

919 924 4887 • JosephRyan@utexas.edu • JosephRyan.me
Joseph-B-Ryan • P1n3appl3

Education

The University of Texas at Austin - Cockrell School of Engineering **Austin TX**
BS in Electrical and Computer Engineering - GPA: 3.53 *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