

Will Savage

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Summary

Student with 5+ years of programming experience. Capable of working in both team and solo environments to design and deliver high quality and flexible software. Worked on projects spanning a wide range of technologies, from bare-metal operating systems to web apps, computer vision solutions, and everything in between.

Skills

Languages: C, C++, Java, Python, Rust, Go, Javascript, HTML/CSS

Tools: Git, GDB, Valgrind, *nix scripting, SQL, REST

Domains: Computer vision, ML, OS design, Compiler theory, Filesystem design, Embedded development, Microservices, Desktop application design, Windowing systems, Game development

Work Experience

Jefferson Lab National Accelerator Facility (2022) - As an engineering intern at JLab, worked with senior engineers and scientists to design and build a system from the ground up for detecting state changes in multiple spectrometers used to record particle data from the facility's particle accelerator. Once the system was complete, worked with engineers to integrate it into the production codebase for use during experimental calibration.

Arlington Public Schools (2022) - Worked as assistant teacher for a summer school course preparing students for AP Computer Science. Effectively communicated computer science concepts to students while collaborating with the primary teacher to design and employ lesson plans.

Projects

Spectreye (2022) - During JLab internship, designed and built a tool which used OCR and computer vision to automatically determine the angle of the Super High Momentum Spectrometer (SHMS) and the High Momentum Spectrometer (HMS) in JLab's Experimental Hall C. Original prototype was written in Python, then reimplemented in C++ for use as a shared library in the Hall C production codebase. Utilized OpenCV, Tesseract, and various deep learning models for text recognition.

Pupil-Controlled Vehicle Demo (2021) - Led a small team in designing and building a vehicle capable of being controlled solely by the movement of the user's eye. Used OpenCV, Python, 3D printing, HTTP sockets, and other technologies to rapidly iterate upon the device and complete it within an extremely short timeframe. Selected as a finalist project for the 2022 International Science and Engineering Fair.

xsnip (2021-2022) - A screenshot program for X11 written in C. Rapidly implemented and improved features based on community feedback while ensuring memory safety and system compatibility.

H-B Woodlawn Arena Scheduling (2021) - Maintained, upgraded, and oversaw the cloud deployment of a system used by my high school to generate student schedules and class rosters.

wOS (2019-2020) - Designed and implemented a 64 bit operating system in Rust, featuring higher half paging, multicore support, a variety of hardware drivers, as well as a completely homegrown filesystem.

Education

H-B Woodlawn Secondary Program (2020-Present)

3.98 GPA (unweighted)

AP Computer Science A - As a freshman, assisted numerous classmates in understanding material and coursework. Achieved the maximum possible score of 5 on the AP test in Java.

Independent Study in CS - Managed, networked, and improved school CompSci lab while simultaneously pursuing independent software projects. Worked with another student to repair and maintain multiple 3D printers, a CNC machine, and an industrial grade laser cutter.