

Jack Hughes

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Profile

I am a hardworking, curious college student looking for a job or internship as a software engineer. I love learning and making things!

Education

- University of Arizona
Class of 2025
- Majoring in Software Engineering
- GPA: 3.571



Experience

- **Pumpkin Space Systems**
 - Software Engineering intern for 3 summers.
 - Created a web app and command-line tools to manipulate satellite telemetry data, including documentation.
 - Helped to create and implement an automated testing system to speed up the hardware validation process.
 - Rewrote a Python library in Rust leading to significant performance improvements.
- **SMART Lab at the University of Arizona**
 - Worked on getting custom built drones to fly using an external tracking system.
 - Made a sensor work on an unsupported platform and contributed back to the upstream library.
 - Working on rendering a 3d environment in VR as it is being scanned using WebXR, WebGL, and Web Sockets.
- **Engineering Senior Design Consultant**
 - Created an Android app using React Native that received and graphed data from the team's embedded device via Bluetooth.
- **First Robotics Competition Team 3189 - The Circuit Breakers**
 - Team co-captain and captain of its programming division.
 - Added a camera-based aiming system using OpenCV on a NVIDIA Jetson.
- **Personal and School Projects**
 - My website, which uses SvelteKit and is deployed for free on Cloudflare Pages, a serverless hosting platform.
 - OpenRGB-Python, a Python library with CI, CD, and documentation that has over 100 stars on GitHub.
 - Developed a basic CPU capable of executing MIPs assembly in verilog on an AMD Artix 7-based FPGA.
 - Created a client for SpaceTraders, a REST API-based game, that does complex path finding, rate limiting, and uses an ORM library.
 - A simple boids simulation in Rust using the Bevy game engine.
 - Built a skycam, a 3d-printed, raspberry pi-based robot.
 - Custom keyboard firmware written in C on top of QMK.
- **Open Source Contributions**
 - Helped to improve device support in OpenRGB.
 - Minor fixes and improvements to various projects as I come across them.

Skills

- **Programming languages:**
 - Python, C, C++, Rust, Java, Javascript, Typescript, Verilog
- **Technologies:**
 - Git, Github, Gitlab, Linux, UML, ReactJS, React Native, SQL, MongoDB, SvelteKit, HTML, CSS, Flask, OpenCV, Docker, HTTP, CI/CD, Serverless, Cloudflare Workers
- **Problem solving**
- **Debugging**
- **Design and Architecture**
- **Communication**
- **Technical Writing**
- **Leadership**
- **Networking (Software)**

Interests

- **Cutting Edge Web Technologies:**
 - WebXR, WebAssembly, Serverless Computing
- **Linux:**
 - NixOS, Linux Gaming
- **Digital Privacy:**
 - Free and Open Source Software, Ethical Data Collection, Self Hosting
- **Other Areas of Interest:**
 - Blockchain, Security, White Hat Hacking, VR, Robotics, Embedded Systems, Custom Keyboards
- **Non-Technical:**
 - Travel, Music, Basketball, Weight Lifting, Reading, Chess