**Jake Gresh**

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**SUMMARY**

Computer Science Senior, experienced with object-oriented programming and full-stack development. Pursuing full-time opportunities in the industry.

**EDUCATION**

**B.S. Computer Science** Expected May 2025

Arizona State University, Tempe, AZ 3.90 GPA

Relevant Courses: Data Structures & Algorithms, Assembly, Cybersec, Software Engineering, Databases, Project Management

**SKILLS**

**Programming Languages**: C/C++, C#, Java, Python

**Web Stack**: HTML, CSS, JavaScript, React.js

**Tools/Methods**: Git, GitHub, JSON, Google Cloud, Oracle Cloud, AWS, Unit Testing (JUnit), SQL, Agile/Scrum

**OS/Software:** Windows, MacOS, Linux/Unix, Microsoft Office, GDB, WordPress

**Certifications:** Advanced Accessibility for Web Developers (ASU, 2024)

**PROFESSIONAL EXPERIENCE**

**ACTS (Anthem Cares Through Service), *Anthem, AZ*: Web Developer** Jan 2024 - Present

* Migrated customized site for nonprofit with 1,000+ volunteers to new host
* Overhauled systems to fix bugs and eliminate malicious form submission spam
* Automating updates and backups for security and stability

**The Nixer, *Phoenix, AZ*: Web Developer** Mar 2023 - Present

* Leveraging company's existing systems and coordinating with new ownership to overhaul site that has since been visited over 10,000 times
* Transferring site to custom WordPress solution hosted on Oracle Cloud Infrastructure virtual machine, overhauled design in accordance with complete rebrand
* Implementing a company-wide calendar management system aligning with the .ics standard

**Various Companies, *Phoenix, AZ*: Freelance Web Development & IT** Jun2023 - Present

* Transferred websites to WordPress on Oracle Cloud virtual machines, saving one business $1500+ annually
* Set up customer contact forms and integrated with automated email communications
* Managed DNS records across GoDaddy and AWS services for multiple domains to ensure reliability of webpage redirects and 100% uptime of automatic email services
* Devised a solution to integrate online payment for products as one business expanded into retail locations

**PROJECTS**

**NASA Educational Web Game, *Class Project*** Fall 2024 - Spring 2025

* Collaborating with NASA on a physics-based **C#** Unity game that teaches students about NASA's Psyche mission
* Leading team collaboration on **GitHub**, combining 5 minigames into a cohesive final product available to the public
* Practicing **Agile** as **Scrum** Master with sprint planning, stand-ups, and retrospectives, delivered prototype on schedule

**Restaurant Database App, *Class Project*** Fall 2024

* Led development of **React.js** web app with restaurant data, users, reviews, and photos
* Wrote **JavaScript** to download data into **PostgreSQL** database from an external API
* Implemented a public API for the backend
* Hosted the backend API and the frontend at [gresh.dev/db](http://gresh.dev/db) on an **Oracle Cloud** virtual machine running **Linux**

**Code Generator, *Class Project*** Spring 2024

* Developed an abstract syntax tree generator in **C++** for any program in a unique programming language
* Implemented multiple types of error checking to ultimately generate an executable representation for input programs

**LLM Helper Web App, *Class Project*** Spring 2024

* Designed a **C#** web app that retrieves and processes data from the web to be used in comparing LLM AI models
* Developed as a team to deploy the app to the web with both remote and local web services
* Included authorization of staff and member pages with accounts, **XML** files, and cookies

**Linux Kernel Modules, *Class Project*** Spring 2024

* Wrote **C** code to implement various operating system features, consulting **Linux** documentation
* Handled processes’ requests to allocate and free memory using multi-level page tables
* Calculated simultaneous multithreaded runtime of all processes belonging to a given user
* Implemented user program access for virtual storage device using the block abstraction, supporting read and write operations of different block sizes and offsets

**Building a Web Server, *Class Project*** Fall 2023

* Programmed **x86 assembly** on **Linux** to implement a web server from scratch
* Wrote code to accept **TCP/IP** network connections
* Used multi-processing to dynamically respond to multiple **HTTP** GET and POST requests

**Binary Search Tree + Local Memory Management, *Class Project*** Spring 2023

* Devised a BST data structure in **C++** with numerous functions for BST operations including traversing, editing, and searching
* Utilized a modular design structure while handling reading to and writing from files
* Implemented local memory management, allowing for reuse of unused structures during execution

**Security Gate Controller, *Class Project*** Fall 2022

* Designed a finite state machine controller for a security gate, managing multiple inputs and outputs
* Simulated multiple designs and decided on criteria to ultimately select the best design
* Documented initial assumptions and entire design process for review

**Fine Motor Skill Games, *Class Project*** Spring 2022

* Led development of three **JavaScript** web games with GitHub to complete all stages of the project by coding collaboratively
* Developed user interface and integrated the system with team members’ games
* Collaborated with group through research and design documents to ensure games can assist toddlers with development of fine motor skills

**GMTK Game Jam Submission, *Personal Project*** Jul 2020

* Developed a **Lua** game adhering to a given theme in 48 hours
* Designed and implemented all gameplay, graphics, and sounds from scratch
* Achieved ratings in the top 15% out of over 5,000 entries