Eliza Samuels

Software Engineer — Full-Stack & Systems

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SUMMARY

Software Engineer with strong foundations in building user-focused scalable applications, integrating front and backend services, and developing low-level systems in Unix/Linux environments.

TECHNICAL SKILLS

Languages: Java, JavaScript, Python, C/C++, SQL (PostgreSQL), HTML, CSS
Additional Exposure: Rust, Ruby, Haskell, Assembly (x86), LaTeX
Frameworks & Tools: React, Node.js, Django, Git/GitHub, Docker, JUnit, Unix/Linux
Libraries: pandas, NumPy, Matplotlib
Concepts: Operating Systems, Data Structures & Algorithms, REST APIs, Authentication, Networking, Agile/SCRUM

EXPERIENCE

Web Developer & Research Assistant   May 2024 – Aug 2024
Music CPR – Create, Perform, Respond   *Harrisonburg, VA*
- Designed and implemented reusable UI components, focusing on accessibility, and visual design
- Built and integrated frontend features with backend services via RESTful APIs, ensuring reliable data flow
- Collaborated cross-functionally with designers and researchers to translate concepts into polished user experiences
- Conducted usability testing and iterated on feedback to improve engagement and task completion
- Refactored and optimized codebases to improve performance, maintainability, and cross-browser compatibility

Treasurer   Dec 2022 – Dec 2023
JMU Club Cheerleading   *Harrisonburg, VA*
- Managed budgeting, expenses, and financial reporting for a 35-member organization
- Coordinated fundraising initiatives, raising $12,000 while ensuring compliance with university policies

Host & Server   May 2022 – Oct 2023
The Mill at Fine Creek   *Powhatan, VA*
- Delivered high-end quality customer experiences in fast-paced, high-pressure environments
- Coordinated event setup and service execution for large-scale events

PROJECTS

Software Engineering Projects | *Java, JavaScript, React, HTML, CSS, SQL*
- Designed and developed full-stack applications, including a VR escape room and consumer-facing design app
- Implemented scalable, component-based frontend architectures using React
- Built backend services with RESTful APIs, authentication flows, and database-backed features
- Wrote unit and integration tests using JUnit to support reliable software delivery
- Applied Agile/SCRUM methodologies across the software development lifecycle
- Containerized and ran applications in Linux environments using Docker to support consistent development

Systems Programming Projects | *C, Linux, Git*
- Built a Y86 CPU simulator in C based on Von Neumann architecture principles
- Implemented process creation, synchronization, memory management, and file systems
- Developed networked applications using sockets and low-level system calls
- Debugged and profiled C programs using gdb to diagnose memory leaks and segmentation faults

EDUCATION

James Madison University   Aug 2021 – Dec 2025
Bachelor of Science in Computer Science, Minor in Mathematics   *Harrisonburg, VA*
GPA: 3.5   Cum Laude

LEADERSHIP & SERVICE

Completed 130+ hours of community service through Computer Science, Math, and National Honor Societies

Served as camp counselor and STEM outreach volunteer, promoting inclusive hands-on technical education

Organized county-wide food drive raising 1,500 items and providing meals to 300+ families