

AAVAR KHATIWODA

703 395 1540 | aavarkhatiwoda@gmail.com | k-td.com | github.com/aavarkhatiwoda | linkedin.com/in/aavar
Falls Church, VA | Active Secret Clearance

SUMMARY

*Versatile software engineer with **over 5 years** of experience in professional full stack software development. Committed to **mastering a diverse range of tools** to drive team and product success. Proven track record of enhancing existing codebases and **delivering impactful solutions**, demonstrating a wide array of technical skills and a commitment to continuous learning.*

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, Java, C++, C, Bash, RISC-V Assembly

Frameworks and Tools: ReactJS, JSX, Sass, Jenkins, Jira, Vim, Terminal, Linux / Red Hat Enterprise Linux, Virtual Machines

Operating Systems & Memory: Job Control Shells, Fork-Join Threadpool, 64-bit Dynamic Storage Allocators, Multimedia Web and Video Server, Random-Access Decompression and Compression Techniques in Memory

PROFESSIONAL HISTORY

Lockheed Martin

May 2024 - Present

Level I Software Engineer

Manassas, VA

- Develop, implement, and maintain new scalable codebase architecture and facilitate refactorization of old tools to continuously enhance existing internal cross-platform and federal client applications.
- Streamline data capture and export processes of automated classified/unclassified system logs and manual user-requested data to enhance analysis of critical system information and provide impactful solutions to potentially failing services.
- Preserve 10+ years of team's critical workflow documentation by automating the migration of 160+ wikis from Redmine to GitLab through new scripts, avoiding error-prone manual workarounds.
- Enhance networking infrastructure by standardizing outdated hostnaming paradigms across key systems into a modern notation.
- Deliver improved high-impact scripting design guidelines to help engineers ensure uniformity and scalability in coding design practices.

Northrop Grumman

Jun 2023 - Aug 2023

Software Engineer Intern

Baltimore, MD

- Enhanced Jenkins CI/CD pipelines through developing new health monitoring tools to better diagnose and prevent build failures before reaching critical stages, implementing health monitoring diagnostic filters on OpenSearch Dashboards.
- Increased efficiency of Jenkins pipeline data collection scripts to yield a -20% time overhead in the data collection process.

RESEARCH

Virginia Tech, College of Engineering

Jan 2024 - May 2024

Undergraduate Research Assistant, CS4994 - Undergraduate Research

Blacksburg, VA

- Designed a novel three-step algorithm to resolve memory bandwidth limitations of traditional compression techniques, improving random-access decompression across four diverse memory dumps.
- Outperformed the DEFLATE algorithm in compression performance across each tested memory dump.

LEADERSHIP

CS OpenSource at Virginia Tech, Career Development Resources

Jan 2024 - May 2024

Founding Vice President

Blacksburg, VA

- Established a new club targeting students' career developments through their contributions to open source projects.
- Created a timeline of goals and held events to target club growth, and introduced 55+ students to collaborative software development.
- Introduced collaborative workflow tools [e.g., Git, GitHub, GitLab] and provided resources to help students find meaningful open source projects of interest.

Virginia Tech, College of Engineering

Aug 2023 - Dec 2023

Undergraduate Teaching Assistant, CS 1114 - Introduction to Software Design

Blacksburg, VA

- Aided 200+ college students in developing critical understanding of new object-oriented programming concepts in Java.

TECHNICAL PROJECTS

Multimedia Web and Video Server

Apr 2024 - May 2024

CS3214 - Computer Systems, Course Project

Blacksburg, VA

- Built a robust and tested multimedia server with multiple client support and protocol independence using HTTP/1.1 and TCP protocols to serve files and stream MP4 video.
- Authenticated user logins by verifying user-specific JSON web tokens through a token-based authentication API.

Job Control Shells

Jan 2024 - Feb 2024

CS3214 - Computer Systems, Course Project

Blacksburg, VA

- Developed a Unix-based customizable shell with full capabilities of executing basic built-in commands and advanced custom commands, supporting pipes, I/O redirection, and programs requiring exclusive terminal access.
- Utilized posix_spawn to manage child processes for advanced custom commands, ensuring child processes retain necessary terminal control, and maintaining support for multithreaded programs.
- Incorporated autonomous signals through the OS Kernel to track foreground and background job status changes (i.e., SIGCHILD, SIGINT, SIGSTOP).

EDUCATION

Virginia Tech, College of Engineering

May 2024

Bachelor of Science in Computer Science

Blacksburg, VA

Minor in Mathematics

GPA: 3.716, Dean's List with Distinction