Aaron Sharif

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Education

University of California, Santa Cruz Expected December 2025
Bachelor of Science in Computer Science *Santa Cruz, CA*

- **Relevant Coursework:** Data Structures and Algorithms, Object-Oriented Programming in python, Discrete Mathematics, Computer Systems and C Programming, Machine Learning, Computer Architecture, Probability Theory

Experience

Software Engineering Intern | *CodeDay Labs* June 2024 - September 2024

- Collaborated with a team to enhance the Leaflet JavaScript library, resolving critical issues and improving performance by optimizing rendering processes, implementing data clustering techniques, and managing memory usage efficiently.
- Increased library map function performance through optimizing code and implementing canvas-based rendering for complex map layers.
- Utilized CI/CD pipelines to automate testing, integration, and deployment, ensuring consistent and reliable updates to the Leaflet library.

Group Tutor for Computer Systems and Assembly Language | *UC Santa Cruz* March 2024 - June 2024

- Prepared lesson plans with the TAs to improve student comprehension of Computer System fundamentals.
- Analyzed and debugged students' code to achieve desired behavior, enhancing understanding of diverse coding styles.
- Facilitated weekly office hours to assist students with projects, lab assignments, and theoretical concepts, resulting in a 15% average increase in assignment scores for attendees

Group Tutor for Foundations of Game Design | *UC Santa Cruz* Jan 2024 - March 2024

- Tutored students on game design and web development concepts in HTML, CSS, and JavaScript.
- Held office hours to explain web development fundamentals, improving debugging skills in JavaScript.
- Created project presentations, & Git guide as resources for student projects and HWs.

Individual Tutor for Linear Algebra | *UC Santa Cruz* Jan 2024 - March 2024

- Guided students through complex linear algebra concepts, enhancing their analytical skills and academic performance.
- Implemented interactive MATLAB sessions for hands-on learning of mathematical theories.
- Developed and modified 30+ Python and Bash grading scripts to automate grading students' labs and projects, reducing runtime by 31% and improving overall assessment grading accuracy.

Projects

Storage Compressor | *C* March 2024

- Designed and implemented an application using Huffman coding to compress and decompress files (e.g., PNG, DOC, HTML), effectively reducing file size and optimizing storage with custom bit reader/writer modules.

15 Puzzle Game | *Python, Tkinter, Numpy* March 2023

- Built a sliding puzzle game with 15 numbered tiles in a 4x4 grid using NumPy for tile shuffling and Tkinter for a responsive GUI.

Steganography | *Python, OpenCV* February 2023

- Implemented a Steganography module to encode and decode messages within images, using image processing techniques and encoding schemes.

Skills

Languages: Java, Python, JavaScript, Golang, C/C++, SQL, Rust, HTML, CSS, TypeScript, Risc-V
DevOps: Git, GitHub, GitLab CI, Node, Vim, Shell, Linux, Docker, Kubernetes, Jira, YAML
Libraries: React, Bootstrap, Scikit-learn, NumPy, Pandas, Matplotlib, Plotly, TensorFlow