

Aaron Sharif

<https://github.com/Sharif262>

[linkedin.com/in/aaronshariff](https://www.linkedin.com/in/aaronshariff)

aaronsharif62@gmail.com

408-649-8491

EDUCATION

University of California, Santa Cruz

Expected June 2025

Bachelor of Science in Computer Science

Santa Cruz, CA

- **Relevant Coursework:** Machine Learning basics, Linear Algebra, Discrete Math, Introduction to Probability Theory, Computer Systems and C programming, Data Structures and Algorithms

EXPERIENCE

Group Tutor for Computer Systems and Assembly language | UC Santa Cruz

March 2024 - June 2024

- Collaborated with the professor and teaching assistants to develop lesson plans that significantly improved student comprehension of C programming and RISC-V architecture.
- 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
- Gained experience in reading code written by others and debugging it to achieve desired behavior.

Group Tutor for Foundations of Game Design | UC Santa Cruz

Jan 2024 - March 2024

- Provided group tutoring sessions to students struggling with libraries in Computer graphics such as three.js, WebGL, gdevelop and more
- Developed lesson plans and study guides to help prepare students for exams, worked overtime to ensure the students don't fall behind on the class material
- Working closely with the professor and teaching assistants to continuously implement optimal learning strategies

Individual Tutor for Linear Algebra | UC Santa Cruz

Jan 2024 - March 2024

- Guided students through complex linear algebra concepts and problem-solving techniques, enhancing their analytical skills and academic performance.
- Developed and implemented interactive MATLAB sessions to facilitate hands-on learning and practical understanding of mathematical theories.
- Mentored students in completing assignments and projects using MATLAB, emphasizing the application of linear algebra in computational tasks and real-world scenarios.

PROJECTS

15 Puzzle Game | Python, Tkinter, Numpy

March 2023

- Built a classic sliding puzzle game about arranging 15 numbered tiles in a 4x4 grid.
- Employed object-oriented programming principles for game state management.
- Utilized NumPy for enabling shuffling of tiles and checking game state to determine valid moves and puzzle completion.
- Implemented a graphical user interface using Tkinter, providing a responsive user experience for game interaction and visualization.

Cryptography | Python, OpenCV

February 2023

- Implemented a Steganography module in Python using OpenCV to encode and decode messages within images, enhancing security protocols.
- Utilized image processing techniques and various encoding schemes including binary, Caesar cipher, and Huffman codes to optimize data embedding efficiency.

Huffman Compression | C

March 2024

- Implemented Huffman coding for lossless data compression and decompression, optimizing space efficiency.
- Created custom bit reader and writer modules for efficient binary data manipulation in file I/O operations.
- Utilized priority queues and binary trees for dynamic Huffman tree construction and traversal.

SKILLS

Languages: C, C++, Python, Java, JavaScript/TypeScript, HTML/CSS, RISC-V

Tools: Git/GitHub, Unix Shell, VS Code, Linux

Libraries: pandas, NumPy, Matplotlib, Tkinter, Pygame, Sci-Kit learn