

Vijay Sinha

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EDUCATION

University of California San Diego	Expected June 2026
Bachelor of Science in Computer Science	
San Diego Miramar College	Aug. 2022 – May 2024
Associate of Science in Computer Science	GPA: 3.9/4.0

SKILLS

Languages: Python, C/C++, Java, JavaScript, HTML/CSS

Frameworks/Libraries: React, Express, Node.js, Vue, Axios, Playwright, MQTT

Database Systems: MongoDB, SQL, SQLite

Developer Tools: Git, GitHub, PowerShell, Vim, Visual Studio Code, Linux, Git Bash, Postman, Docker, Trello

EXPERIENCE

Software Engineer Intern AV (AeroVironment)	June 2025 – Present
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- Contributed to system development on Linux, working across branches in Git and collaborating closely with engineers to debug, validate, and improve system reliability.
- Created a Python replay script that parses system logs to republished MQTT messages for a provided time frame—making race conditions and intermittent bugs repeatable and fixable.
- Built and maintained high-value regression tests with Playwright/TypeScript, covering REST APIs, SQL database validation, and various backend services.
- Developed a full-stack web application using Vue, Node.js, and SQLite to manage and execute Linux system tests, with backend APIs for test control and email notifications upon completion.

PROJECTS

Stock Tracker App

- Built a comprehensive MERN stack app that seamlessly combined dynamic stock searches, secure authentication, and real-time data visualization.
- Integrated Alpha Vantage API and implemented asynchronous data fetching to reduce stock data load times, enabling fast, accurate market insights.
- Designed key React components to improve UI responsiveness and search efficiency, empowering users to manage and analyze their stock portfolios more effectively.

Chat Server

- Developed a comprehensive chat server as part of a university project using C, implementing HTTP request handling and core networking protocols to facilitate real-time communication.
- Implemented robust URL decoding and error-handling routines to secure data integrity and mitigate vulnerabilities from malformed requests.
- Optimized static in-memory data structures for chat and reaction storage, reducing memory overhead and ensuring predictable performance under load.

COURSEWORK

- Intermediate Java Programming • Systems Programming and Software Tools • Advanced Data Structures
- Design and Analysis of Algorithms • Software Engineering • C++ Programming • Web Client Languages
- Web Mining • Operating Systems Principles • Machine Learning: Learning Algorithms

CERTIFICATIONS

IBM Full Stack Developer

- Full-stack development, Python for AI, cloud native methodologies, microservices, and serverless functions, Agile.

AWS Cloud Technical Essentials

- AWS services: Key terminology, security/IAM, computing (EC2, Lambda, ECS), and data management.