

Vaibhav Achuthananda

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EDUCATION

Stevens Institute of Technology

Master of Science in Computer Science

Hoboken, NJ

Sep. 2024 – May 2026

Lovely Professional University

Bachelor of Technology in Computer Science and Engineering

Punjab, India

Aug. 2019 – May 2023

PROJECTS

SpeedCode | JavaScript, Firebase, HTML/CSS, Git

May 2025 – Present

- Developed a browser extension to enhance LeetCode with manual timers and collaborative problem-solving buckets
- Engineered a modular architecture using centralized state management to separate auth, UI, and database logic
- Implemented real-time data synchronization of user progress using Firestore database operations
- Deployed a cross-browser compatible extension for Chrome and Firefox, achieving a 99.9% crash-free user rate

High-Frequency Trading Bot | Python, SHIFT, FIX Protocol, NumPy, Pandas

Mar 2025 – May 2025

- Improved Sharpe ratio from 1.2 to 2.8 and reduced drawdown by 81% while processing 50,000+ market data points per second
- Engineered a dynamic, multi-strategy framework to capitalize on diverse market conditions
- Architected a real-time system to dynamically adjust strategy allocations based on PnL and win rate
- Implemented risk management protocols that reduced position sizes by 50% during high-volatility events, maintaining profitability throughout the competition

Album Exchange | Next.js, React, Firebase, Spotify API, Node.js

Jan 2025 – May 2025

- Built a full-stack music discovery platform for community-driven album sharing using the Spotify API
- Reduced API calls by 40% through server-side rendering optimizations and strategic caching
- Architected real-time data sync using Firebase and achieved 99% uptime via an automated CI/CD pipeline
- Implemented browser fingerprinting for rate limiting and deployed as a scalable progressive web app (PWA)

EXPERIENCE

Software Engineering Consultant

Jan 2024 – Aug 2024

Mohit Mokal Mediation

Bangalore, India

- Architected and implemented a scalable web application using Next.js and Tailwind CSS that handled 15K+ concurrent users, reducing page load time by 75% and increasing conversion rate by 40%
- Designed a microservices-based API architecture with Node.js, implementing automated testing with Jest that increased code coverage to 92% and reduced deployment bugs by 80%
- Engineered a content management system leveraging the Blogger API, Firebase, and custom webhooks that automated updates and increased content freshness metrics by 65%

Technical Product Consultant

June 2023 – Jul 2023

BSides Indore

Indore, India

- Led system architecture redesign initiative, conducting performance profiling and requirement analysis that identified 7 critical bottlenecks and improved overall throughput by 200%
- Implemented advanced UX testing methodology across 30+ user stories, detecting 15 critical accessibility issues while achieving WCAG AA compliance and reducing user error rates by 36%
- Created and managed an agile development framework with 4-day sprint cycles that maintained 100% on-time delivery across 20+ feature releases while reducing development iterations by 65%

TECHNICAL SKILLS

Languages: C/C++, Python, JavaScript/Typescript, Swift, Go

Front-End: React, Next.js, Svelte, SvelteKit, Tailwind CSS, Three.js, Redux

Back-End: Node.js, Express, REST APIs, GraphQL, Microservices

Data & ML: TensorFlow, PyTorch, scikit-learn, Keras, NumPy, Pandas, CNN, SVD

Databases: MongoDB, MySQL, PostgreSQL, Firebase, Redis

DevOps & Tools: Docker, Git, CI/CD, AWS, Google Cloud, Linux, Bash