HARSH JAIN

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EDUCATION

Master of Science in Computer Science Expected Graduation December 2025
University Of Southern California , Los Angeles , California 3.75 GPA
Coursework: Algorithm Analysis , Operating Systems , Advanced Data Stores , Machine Learning , Web development

Bachelor of Information Technology August 2019 - June 2023
K.J. Somaiya College Of Engineering , Mumbai , India 9.2 GPA
Coursework: Deep Learning , Computer Architecture , Object Oriented Software Engineering, Cloud Computing

SKILLS

Languages: Python, C , C++ , Java, Assembly , Typescript
Software & Technologies: AWS , Azure , Linux , Unix, Git , PostgreSQL, GDB , Maven, Angular , Node.Js, Jenkins , Docker , Kubernetes , Django Rest , Redis , React , Next.js , Flask , GraphQL , Mongo DB , Pandas , Numpy

EXPERIENCE

Technology Analyst Intern June 2025- Present
Pacific Investment Management Company (PIMCO), Newport Beach, California

- Engineering a low-latency RAG-based multi-agent system that can autonomously resolve 10,000+ weekly customer support queries, eliminating manual escalations and continuously improving knowledge base quality through real-time feedback.
- Developing a real-time diagnostics tool in collaboration with cross-functional trading teams to instantly identify the root causes of failed trades, significantly accelerating order execution audit coverage while maintaining performance SLAs.

Systems Developer Intern July 2024 - Present
Southern California Earthquake Center, Los Angeles, California

- Engineered an optimized database schema by revamping indexing strategies and refining table relationships to address legacy performance issues, resulting in a 20% reduction in query latency and improved system responsiveness.
- Managed a 20,000 user emergency drill registration system and migrated it to support a newer backend architecture for better forward compatibility reducing API load times by 30%.

Software Engineer Summer Program May 2024 - August 2024
Speech Articulation Reinforcement Application, Los Angeles, California

- Built a service using AWS Lambda, Polly, and S3 to dynamically generate audio instructions for practice templates, automating the release process and reducing launch times by 50%.
- Developed a real-time phonetic word breakdown service to convert IPA-to-orthographic character mappings , simplifying visual pronunciation guides for children and boosting audio exercise performance scores by 18%.

Software Engineer Intern August 2023 - November 2023
Swasthya AI, Pune, India

- Built an EMR application backend for oncologists in major Indian hospitals by leveraging MongoDB's aggregation pipeline & GraphQL, achieving a 30% latency boost amidst scalability challenges from increasing patient data.
- Implemented a CRM analytics dashboard on the MERN Stack to allow for custom task workflow management.

PROJECTS

Operating Systems: Kernel(Linux , C , x86, Assembly, GDB) | bit.ly/41cXif8 July 2024- December 2024

- Built a Unix-like kernel with robust process management system, enabling concurrent multi-process execution through implementation of thread scheduling and context switching mechanisms.
- Developed a comprehensive virtual memory management system with demand paging and memory-mapped files.
- Implemented a Virtual File System (VFS) abstraction layer supporting both RAMFS and S5FS.

Realtime Stock market platform | bit.ly/Hjstocktrade January 2024 - June 2024

- Created a stock trading application with two versions: a web version using Node.js and React, and a mobile version in Swift(IOS), with over 2,000 active users & implemented portfolio management and real time transaction support.
- Delivered a security framework using HTTPS and JWT, while deploying on AWS to handle 5000+ requests per minute using WebSockets for real-time data updates to allow users to trade with accurate data from the real markets.