HARSH JAIN

(213)-756-9613 • hnjain@usc.edu • linkedin.com/in/harsh-jain-dev • github.com/harsh3401 • harsh3401.github.io

EDUCATION

Master of Science in Computer Science December 2023 - December 2025
University Of Southern California , Los Angeles , California 3.7 GPA
Coursework: Analysis of Algorithms, Advanced Data Stores , Web Development , Operating Systems

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

TECHNICAL SKILLS

Programming: Java , Python , Typescript , Swift , PHP , Shell
Frameworks: Django Rest Framework , Node.Js , Flask , React , Angular
Technologies: PostgreSQL , MongoDB , Docker , AWS, GraphQL , Websockets, Serverless, Git

EXPERIENCE

Speech Articulation Reinforcement App, Los Angeles, California: Developer Intern May 2024 - Present

- Refactored phonetic word breakdown service with an IPA-to-orthographic character mapping approach, simplifying visual pronunciation guides for children and boosting performance scores by 18%.
- Devised a service using AWS Lambda, AWS Polly, and S3 to dynamically generate audio instructions for new practice templates, automating the release process and reducing launch times by 50%.

Swasthya AI, Pune, India: Web Developer Intern August 2023 - November 2023

- Enhanced EMR application performance for oncologists in major Indian hospitals by leveraging MongoDB's aggregation pipeline, achieving a 30% API performance boost amidst scalability challenges from increasing patient data.
- Implemented the first phase of the CRM analytics dashboard on the MERN Stack to allow for custom task workflow creation and management for hospital staff thereby removing dependency from heterogeneous PM tools.
- Developed a shared Internal Component Library for client-side React applications & migrated front-end developer tooling to Vite, reducing code duplication by 20% & improving initial load performance by 3x for the web application.

NUDOC Systems, Mumbai, India: Software Developer Intern January 2022 - October 2022

- Executed real-time job queue progress tracking using web sockets enabling live updates on back-end processing tasks and improving log transmission by 2x over polling.
- Optimized PDF archival strategy, duplicating frequently accessed files to the main server and transferring less frequently used documents to static storage, resulting in a 20% annual reduction in block storage costs.
- Devised a React-based PDF management system to combat sluggish document processing, achieving a 2x reduction in processing time via automated file organization and streamlined flows for repetitive processing tasks.
- Migrated front-end PDF editor processing tasks to a queue-based system, resulting in a 50% reduction in application memory usage , faster task processing speed & expanded hardware compatibility.

ACADEMIC PROJECTS

Stock Trading Application | An application to simulate a real-time stock market bit.ly/Hjstocktrade

- Engineered a MEAN stack web app and IOS app to simulate a real time trade platform with trade latency of 100ms.
- Simulated features like real time trading and portfolio management and metric analysis to provide insights on trading patterns and stock trends to allow users to trade with accurate data from the real markets.

Air France Cargo Challenge | An algorithm to efficiently pack air cargo bit.ly/AFKLMHackathon

- Created an efficient algorithm to place cargo in containers and pallets, to optimize centre of gravity and save fuel by up to 5%, using a combination of a greedy & divide and conquer approach. .

Smart Fridge System | A mobile application to monitor fridges bit.ly/SmartFridgeSystem

- Engineered a DRF service with Docker & a React native application to Monitor Fridge Data, recommend up to 200 recipes based on fridge content and provide nutritional data to speed up food preparation for busy professionals.
- Built a food item data-set with 4000 labelled food items for training the image detection model for freshness classification of common fridge items based on visual decay.