

HARSHIT KHANNA

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EDUCATION

Rice University, Texas

August 2022 - December 2023 (Expected)

Master in Computer Science, 3.4/4

Related Coursework: Graduate Analysis of Algorithms, Database System Implementation, Machine Learning

Guru Gobind Singh Indraprastha University, Delhi

August 2015 - June 2019

Bachelor of Technology in Information Technology, 8.6/10

Related Coursework: Data Structures, Object-Oriented Programming, Java Programming, Cryptography

TECHNICAL SKILLS

Languages Java, Javascript, Python, C++, PHP, Solidity
Frameworks Spring Boot, Node.js, Laravel, React, Angular
Other SQL, MongoDB, Kafka, Kubernetes, AWS, Jenkins, Git, Drools

EXPERIENCE

Smith & Associates: Software Engineer Intern

May 2023 – Aug 2023

Angular, PHP Laravel, Artisan Tinker, Ngnix, AWS EC2

Houston, USA

- Led the development of the **Skills Development Platform**, Dockerized the services, and deployed on Amazon EC2 with Nginx, resulting in a significant reduction of over **1000 idle hours** per week potentially saving **\$300,000** monthly.
- Effectively decoupled a PHP Laravel application. Built event-based REST endpoints. Used PHP Artisan Tinker to write and execute tests, increasing the test coverage from ~35% to 92%.

UnitedHealth Group: Software Engineer

May 2023 – Aug 2023

SpringBoot, Node.js, MongoDB, MySQL, React, Angular, Kafka, AWS, Docker, Kubernetes

Gurugram, India

- Led the development of **Coordination of Benefits**, a message-based microservice platform with Kafka as a message broker to enable asynchronous communication among the processing, validation, and notification services, reducing multi-benefit claim processing time by **50%**.
- Built Jenkins CI/CD pipelines, Dockerized the microservices, and deployed the containers on AWS EC2. Used Istio mesh and Kubernetes for container orchestration with AWS EKS.
- Built microservices using gRPC framework and protobuf data modeling for communicating with Health Care Platform UI reducing the API response time by **~2 seconds**.
- Built stateful services for **Claims Processing Application**, using MySQL, Hibernate ORM, and Redis for the caching layer.
- Wrote AWS Athena queries to catch regressions and derive insights from the benchmark runs and built a system to set up alerting through Python scripts to create a JIRA work item for the first-party service team to investigate helping the team analyze inefficiencies in the Claim Processing Lifecycle.
- Led the complete revamp of the obsolete Validation process by converting Perl Scripts to Python, significantly reducing the downtime and increasing the validation speed by over **30 seconds**.
- Researched on, built POCs, and integrated framework-agnostic Angular Elements, into an existing Spring Boot project.

Idemia – Software Engineer Intern

May 2018 – Aug 2018

Node.js, React.js, MongoDB

Delhi, India

- Built an authentication gateway using M.E.R.N stack and a telemetry web app with dashboards in React to monitor consumer traffic.
- Reconfigured the Payment Gateway to accommodate crypto payments using the third-party Coinbase API.

ACADEMIC PROJECTS

Database System

Rice University

C++

Jan 2023 - Apr 2023

- Built Database System on top of boilerplate code as a part of COMP: 530 at Rice University. Implemented Buffer Manager, LRU Caching, Record Manager, indexing using B+ Trees, and Page Sorting using (TPMMS), and SQL Type Checking.

Hendrixmart: <https://hendrixmart.herokuapp.com/>

Rice University

React, Redux, Nodejs, Redis, Cloudinary, MongoDB, Heroku

Oct 2022 - Dec 2022

- Developed a fully scalable e-commerce platform in MERN-Redux-Stack and deployed it on Heroku.
- Implemented an Admin portal for Product Creation, Product Delivery, and a Product Review System.