

# 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, Typescript, PHP Laravel, Artisan Tinker, Python, SQL Server, Ngnix, AWS

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 and created event-based REST endpoints. Used PHP Artisan Tinker to write and execute tests, increasing the test coverage from **35%** to **92%**.
- Successfully transitioned services to AWS Fargate, resulting in **~15% reduction** in AWS costs.
- Performed data wrangling and analysis on Google Analytics data to uncover correlations between user behavior, courses, departments, and optimal engagement timings.

**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 **45%**.
- Developed Jenkins CI/CD pipelines, dockerized the microservices, and pushed the containers on AWS EC2. Used Istio mesh and Kubernetes for container orchestration with AWS EKS; reaching a **~25% reduction** in downtime.
- Wrote AWS Athena queries to catch regressions and derive insights from the benchmark runs and wrote Python scripts to create JIRA work items for the Claim Analysis team to investigate aiding the team in analyzing inefficiencies.
- Wrote microservices using gRPC framework and protobuf data modeling for communicating with Health Care Platform UI reducing the API response time by **~2 seconds**.
- Architected and implemented multiple features through stateful services for the **Claims Processing Application**.
- 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

- Designed a telemetry web app with a dashboard to monitor consumer traffic, increasing traffic visibility.
- Reconfigured the Payment Gateway to accommodate crypto payments; achieved a **15% increase** in web traffic.

## ACADEMIC PROJECTS

**Database System**

Rice University

C++, Flex, Bison

Jan 2023 - Apr 2023

- Constructed a 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, Page Sorting (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.
- Integrated Admin portal for Product Creation, Product Delivery, and a Product Review System.