HARSHIT KHANNA

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EDUCATION

Rice University, Texas *Aug 2022 - Dec 2023 (Expected)*
Master in Computer Science, 3.4/4
Graduate Design & Analysis of Algorithms, Database System Implementation, IoT Programming, Deep Learning

Guru Gobind Singh Indraprastha University, Delhi *Aug 2015 - Jun 2019*
Bachelor of Technology in Information Technology, 8.6/10
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, PyTorch
Other	SQL, MongoDB, Kafka, Kubernetes, AWS, Jenkins, Git, Drools

EXPERIENCE

N.F Smith & Associates - Software Engineer Intern *May 2023 – Present*
Angular, Typescript, PHP Laravel, Artisan Tinker, SQL Server, Ngnix, AWS *Houston, USA*

- Currently spearheading the migration of the **Learning Platform** from an archaic Vue codebase to a modern Angular SPA, enhancing performance through Lazy Loading, AOT Compilation, and Web Workers.
- 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%.**

UnitedHealth Group - Software Engineer *Aug 2019 – May 2022*
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, enabling 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 Kubernetes for container orchestration with AWS EKS; reaching a ~**25% reduction** in downtime.
- Wrote microservices using gRPC framework and protobuf data modeling for communicating with Health Care Platform UI reducing the API response time by **~2 seconds**.
- Successfully transitioned services to AWS Fargate, resulting in a 15% reduction in AWS costs.
- Led the complete revamp of the obsolete **Validation Process** by converting Perl Scripts to Python, significantly reducing the runtime from over **300 minutes** to **~20 minutes.**
- 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

Relational Database System *Jan 2023 - Apr 2023*
C++, Flex, Bison *Rice University*
- Constructed a **Relational Database System** on top of boilerplate code as a part of the course at Rice University.
- Implemented Buffer Manager, LRU Caching, Record Manager, indexing using B+ Trees, Page Sorting (TPMMS), and SQL Type Checking.

Hendrixmart: hendrixmart.herokuapp.com *Oct 2022 - Dec 2022*
React, Redux, Nodejs, Redis, Cloudinary, MongoDB, Heroku *Rice University*
- Developed a fully scalable **E-Commerce** platform in MERN-Redux stack and deployed it on Heroku.
- Integrated the Admin portal for Product Creation, Product Delivery, and a Product Review System.