

Soham Nag

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EDUCATION

Master of Science in Computer Science

Arizona State University, Tempe, AZ

GPA: 4.0 / 4.0

Bachelor of Technology in Electrical and Electronics Engineering

National Institute of Technology Meghalaya, Shillong, India

GPA: 8.6 / 10

TECHNICAL SKILLS

Languages: Java, Python, C, C++, JavaScript, TypeScript, HTML, CSS, Kotlin

Database: PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch, SQL, NoSQL, NewSQL

Cloud: AWS (EC2, S3, Lambda, DynamoDB, RDS), Google Cloud (GCP), Microsoft Azure

Libraries and Misc.: Spring Boot, Next.js, React.js, Node.js, Express.js, Django, Redux, GraphQL, Kibana, Git, Github, NPM, Yarn, Docker, Kubernetes, Ansible, Terraform, Apache Kafka, Mockito, Postman, Jenkins, Agile, SDLC, CI/CD, Jira, Gradle, Maven, Linux

RELEVANT WORK EXPERIENCE

Software Engineer Intern

OneDrug, Remote, US

June 2024 – August 2024

- Spearheaded the development of the "Electronic Health Record" (EHR) functionality in a full-stack web application using **JavaScript, React, Node.js, and Express.js**, enabling efficient and secure health data management for patients
- Constructed a reliable sign-in framework employing **JSON Web Tokens (JWT)** and incorporated OTP verification through Mailgun improving overall user satisfaction **scores by 15%** based on post-login feedback surveys
- Optimized routing logic and server-side processes, reducing page-to-page navigation times by **approximately 20%**, significantly improving the user experience

Software Engineer and Teaching Assistant

Arizona State University, Tempe, AZ

August 2022 – May 2024

- Developed a **Spring Boot** based backend service that utilizes the OpenAI's gpt-4 API to generate **600,000** relevant personally identifiable information (PII) for IDs for a **DHS** funded project to develop a GAN based privacy preserving fake ID detection system
- Containerized the service using **Docker** and deployed it on **AWS**, utilizing **Amazon Elastic Container Service (ECS)** for container orchestration and **Amazon Elastic Container Registry (ECR)** for managing Docker images, ensuring reliability and scalability
- Exposed the service via a **REST API** deployed on AWS API Gateway and used AWS Cloudwatch to monitor API performance to ensure optimized throughput and **scalability**

PROJECTS

Cloud-Native Trivia Application (Java, Spring Boot, PostgreSQL, AWS EC2, RDS, S3, Postman)

- Architected a trivia application using Java and Spring Boot, leveraging **microservices** architecture to ensure scalability and modularity to handle 1000+ players simultaneously
- Designed **REST APIs** for user authentication, retrieving questions, submitting answers, and tracking scores. Utilized PostgreSQL as the backend database managed through Amazon RDS for 40% lesser database management overhead

TripSafe Safety Companion iOS App (Xcode, Swift, Core Motion, MapKit, Maps API)

- Designed an iOS application using **Swift to enhance safety measures** for long-haul drivers, integrating multiple real-time functionalities, as listed below
- Implemented an **overspeeding detection algorithm and nearest gas stations** suggestions for timely refueling
- Engineered an **automatic crash detection** feature utilizing sensor data, coupled with emergency service coordination functionality, enabling swift response in critical situations
- Devised real-time monitoring of driver physiological parameters, including **heart rate and breathing rate**, to gauge driver wellness and stress levels

Distributed Content Delivery Network (PostgreSQL, MongoDB, Python, Docker IB)

- Developed a SQL and NoSQL based distributed CDN leveraging Docker containers and Docker Networking
- Devised efficient **database replication and failover strategies** with 1 master and 2 slave nodes