Soham Nag

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EDUCATION

Master of Science in Computer Science   *GPA: 4.0 / 4.0*
Arizona State University, Tempe, AZ

Bachelor of Technology in Electrical and Electronics Engineering   *GPA: 8.6 / 10*
National Institute of Technology Meghalaya, Shillong, India

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   *June 2024 – August 2024*
OneDrug, Remote, US

- Spearheaded the development of the "Electronic Health Record" (EHR) functionality in a full-stack web application using **JavaScript, Node.js, and Express.js**, enabling efficient and secure health data management for patients
- Engineered a robust sign-in process with **JSON Web Tokens (JWT)** and integrated OTP verification via Mailgun to enhance security and streamline user authentication
- Optimized routing logic and server-side processes, reducing page-to-page navigation times by **approximately 20%**, significantly improving the user experience

Graduate Research and Teaching Assistant   *August 2022 – May 2024*
Arizona State University, Tempe, AZ

- 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
    - Implemented **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 and developed 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
    - Implemented real-time monitoring of driver physiological parameters, including **heart rate and breathing rate**, to gauge driver wellness and stress levels
- **Distributed Content Delivery Network (CDN) |** *PostgreSQL, MongoDB, Python, Docker*
    - 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