Soham Nag

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Education

Master of Science in Computer Science GPA : 4.0
Arizona State University, Tempe, AZ *August 2022 – May 2024*

Bachelor of Technology in Electrical and Electronics Engineering GPA : 8.6
National Institute of Technology Meghalaya, Shillong, India *August 2013 – May 2017*

Technical Skills

Languages: Java, Python, C/C++, JavaScript, TypeScript, HTML, CSS, SQL, Kotlin
Frameworks, Libraries and Misc.: Spring Boot, Next.js, React.js, Node.js, Express.js, Django, Redux, Zustand, AWS (EC2, S3, Lambda, DynamoDB), Google Cloud, Microsoft Azure, GraphQL, PostgreSQL, MongoDB, Redis, Elasticsearch, Git, Docker, Kubernetes, Ansible, Terraform, Firebase, Supabase, Apache Kafka, Mockito, JUnit, Selenium, Postman, Jenkins, Data Structures and Algorithms, Object Oriented Programming, Design Patterns

Relevant Tech Experience

Graduate Research Assistant & Teaching Assistant Aug 2022 – Present
Arizona State University *Tempe, AZ*

- Development of a GAN based privacy preserving counterfeit identity document detection system and its corresponding benchmark dataset for a Department of Homeland Security funded research project of CACTUS Lab, ASU
- Teaching an in-database Machine Learning inference system to a class of 320 students as a Teaching Assistant for CSE 412 'Database Management'
- Performed grading of assignments for a class of approximately 400 students for courses 'Principles of Programming Languages' and 'Engineering Blockchain Applications'

Other Experience

Information Technology Coordinator and Operations Engineer July 2017 – July 2021
Power Grid Corporation of India Limited *Shillong, India*

- Collaborated with ABB Sweden for the commissioning of Asia's first 800 kV 3000 Megawatt high performance HVDC transmission facility in Assam (India) and acted as Team Lead for an execution team of 30 employees. The project improved the region's power reliability by over 20%
- Undertook routine testing and troubleshooting of company's internal IT network and network devices, reducing network vulnerabilities and network downtime by 4%

Projects

Thesis Project: GAN based counterfeit identity document detection | *OpenCV2, Pillow, Pytorch*

- Developed a benchmark identity document dataset containing various fraud patterns.
- Designed a Generative Adversarial Network based privacy preserving classifier model for identifying fraud IDs.

Spotify Clone Application | *Next 13, React, Supabase, PostgreSQL, Zustand, Tailwind, Stripe API, Vercel*

- Implemented user registration, authentication, song and album art upload, liked/disliked songs and music playback functionalities in a polished Spotify clone. Leveraged the efficiency of Supabase and Zustand for authentication and state management. Integrated Stripe API to enable secure monthly subscription payments. Deployed the project on Vercel for optimal performance.

Trivia Application | *Java, Spring Boot, PostgreSQL, Postman*

- Developed a trivia application containing separate microservices for CRUD operations on a question bank and generating a quiz for user. Question bank is stored using PostgreSQL and services communicate using REST APIs

Biomarker Sensing Android App | *Android Stdio, Kotlin*

- Architected and developed a Kotlin based Android app that can be used to sense the current heart rate and respiratory rate of the user with an accuracy of 94%.

Meal Detection System for Artificial Pancreas | *Python, Pandas, Numpy, Sklearn, Scipy*

- Designed and implemented a meal detection model to determine whether an individual has consumed a meal based on input insulin data. Leveraged Random Forest Classifier technique of supervised machine learning on a provided training dataset to create a model of 82% accuracy.