

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

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, Agile, SDLC, CI/CD, 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

- Collaborated in the development of a Generative Adversarial Network based privacy preserving counterfeit identity document detection system and generated its corresponding benchmark dataset for a Department of Homeland Security funded research project of CACTUS Lab, ASU
- Performed an in-depth analysis and comparison of the performance of PostgresML (an in-database machine learning inference framework) against Sklearn, ONNX, Hummingbird, Treelite
- Teaching Assistant and Grader for ‘Database Management’, ‘Data Intensive Systems for Machine Learning’, ‘Principles of Programming Languages’, ‘Engineering Blockchain Applications’ and ‘Distributed Software Development’

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 Studio, 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.