SAYANTIKA PAUL

spaul56@asu.edu | +1(602)-813-6419 | Arizona, United States | LinkedIn| GitHub

EDUCATION

Arizona State University **August 2024- May 2026**
Master of Science in Computer Engineering (3.6/4) Tempe, United States
Relevant Coursework: Planning and learning methods of AI, Deep Learning using Supercomputer, NLP, Data Mining, Foundations of Algorithm, Cloud Computing

Meghnad Saha Institute of Technology **June 2016-July 2020**
Bachelor of Technology, Electronics & Communication Engineering (3.5/4) Kolkata, India
Relevant Coursework: Object Oriented Programming, Data Structure, DBMS, Calculus of functions of several variables, Matrix, Computer Networks, Graph theory, Probability

SKILLS

Languages: Python, Java, SQL, C/C++, JavaScript, HTML/CSS
Frameworks/Technologies: AWS, Spring Boot, Microservices, REST, PyTorch, Node.js, React.js, Express.js, Jenkins, Docker
Tools/Databases: MySQL, MongoDB, PostgreSQL, Git, Git CLI, Jupyter, Eclipse, IntelliJ, Tableau, JUnit, Pandas, NumPy, Scikit-Learn, TensorFlow
Operating Systems: Windows, macOS, Linux

EXPERIENCE

AI Cloud Innovation Center, ASU (Powered by AWS)- *Associate Cloud Developer* January 2025-Present
(Python, Streamlit, AWS, GitHub) Arizona, United States

- Working with the **AWS** client to develop **Generative AI** solutions for public sector challenges, leveraging **AWS** services like **Lambda**, **Bedrock,** and **CDK** to ensure scalable and impactful deployments.

Tata Consultancy Services- *Software Development Engineer (Amazon Client)* March 2023- July 2024
(*JAVA, AWS, Spring boot, Microservices, Spring REST, SQL, PostgreSQL, JUnit, GitHub, Jenkins, System Design)* Bangalore, India

- Collaborated with cross-functional teams to design scalable solutions for **Amazon Pay** using **Java**, **Spring Boot**, and **AWS Lambda**, improving system performance by 25%.
- Developed **microservices** architecture on **AWS**, ensuring **fault tolerance**, scalability, and efficiency, handling millions of transactions daily.
- Refactored legacy systems from monolithic to **microservices**, reducing deployment time by 30% and enhancing agility.
- **Debugged** complex, distributed systems, employing profiling tools and **system logs** to identify and resolve performance bottlenecks.
- Automated testing and **CI/CD pipelines** with **Jenkins**, minimizing deployment errors, ensuring timely releases across multiple environments.
- Worked in an **Agile** environment, leading **code reviews** and implementing **JUnit** test cases (85% coverage) to ensure high-quality, secure releases, while upgrading 300+ JAR files to the latest non-vulnerable versions.

Wipro Limited- *Project Engineer* September 2020 – February 2023
(JAVA, Spring boot, Microservices, Spring REST, Maven, Kafka, Swagger, NodeJS, MySQL, MongoDB, Jenkins, Docker) Bangalore, India

- Developed **REST APIs** and backend services using **Java**, **Spring Boot**, and **MySQL** for a banking project, improving response times by 20% while ensuring system reliability.
- Led migration from a monolithic architecture to a **microservices-based** system using **Spring Boot** and **Kafka**, reducing operational costs by 30% and enhancing scalability.
- Designed **distributed storage systems** using **MongoDB** and **MySQL**, ensuring high availability and scalability of customer data across multiple regions.
- Integrated real-time monitoring tools such as **Splunk** and **Dynatrace** for production systems, boosting uptime and response time through proactive issue detection.
- Participated in **Agile** sprints, conducting **code reviews** and resolving over 100 **critical bugs**, which improved system stability and performance.
- Worked with low-level **networking** protocols (e.g., **HTTP**, **TCP/IP**) in microservices environments to ensure smooth integration and system reliability across distributed components.

PROJECTS

- **A Deep Learning Approach to Speech Emotion Recognition (Python, TensorFlow, CNN-RNN, Librosa, Supercomputer of ASU) |Project**
  Developed an hybrid CNN-RNN model to detect emotions from speech using datasets like RAVDESS and TESS, with 91% accuracy in real-time and batch processing.
- **Retailer Fraud detection (Python, LLM, Generative AI, Streamlit, AWS EC2) | Project**
  A real-time fraud detection tool leveraging AI to help eCommerce sellers identify high-risk suppliers, enhancing trust in global supply chains and protecting customers from unreliable products.
- **Booking Engine (Node.js, REST API, MongoDB, ReactJS) | Project**
  Developed a full-stack, distributed web application for hotel booking, ensuring scalable and fault-tolerant database transactions.

PUBLICATIONS (International Journal of Advanced Research in Computer and Communication Engineering)

AI to predict Natural Disasters like Earthquakes using ESC Extraction and SVM | (*Python, SVM, PolSAR, Data Preprocessing*) **| IJARCCE_Link**
Presented a method for earthquake prediction using eigenvalue statistical components (ESC) and Support Vector Machine (SVM), achieving accuracy between 89.64% and 95.53% in cross-domain extraction. November 2022

AI to Predict Diabetic Retinopathy: CNN to Build 'Retina Model' |(*Python, TensorFlow, Image Processing, Machine Learning*) **| IJARCCE_Link**
Proposed a Convolutional Neural Network (CNN) model for detecting and classifying diabetic retinopathy stages, achieving an accuracy of 92% in identifying early signs from retinal images. September 2022

ACHIEVEMENTS

- Completed **AI Skills Challenge of Microsoft Fabric:** Gained hands-on skills in data analytics, data ingestion, and visualization through MS Fabric Oct2024
- Ira A. Fulton Schools of Engineering **Graduate Scholarship** Fall 2024, Spring 2025