

Sarthak Singh

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EXPERIENCE

IBM (Software Development Engineer II)

July 2021 – Jan 2024

Python, AWS, Kubernetes, Docker, Jenkins, PostgreSQL, Golang

Kochi, India

- Led the migration of data analytics pipelines from ElasticSearch to OpenSearch, reducing operational costs by up to \$3M annually and improving search performance.
- Streamlined backend services for API management on IBM Cloud and AWS, optimizing traffic routing, security, and data processing, reducing inefficiencies and operational overhead.
- Spearheaded a security optimization project for managing sensitive data, resulting in a more cost-effective solution and earning the IBM Quarterly Cash Award for contributions.
- Enhanced the overall reliability and scalability of services, facilitating API integrations and improving customer-facing application performance.

Influenced (Full Stack Developer)

July 2024 – June 2025

Next.js, React, TypeScript, Tailwind CSS, AWS Amplify, Dynamo DB

Remote, USA

- Developed an AI-powered marketplace that connects brands with micro-influencers, enabling authentic social proof and massive reach. Implemented role-based access and AI-driven workflows for product listings, interest expressions, and collaboration management.

Informatica (Software Engineer Intern)

Jan 2021 – July 2021

Python, ETL, Oracle DB, Tableau, Golang, AWS S3

Bangalore, India

- Contributed to customer support by resolving 100+ tickets, offering technical guidance and troubleshooting for issues related to the Informatica ETL tool.
- Provided direct technical support for integrating the Informatica ETL tool with databases such as PostgreSQL, MySQL, and AWS S3.
- Led an intern showcase event, demonstrating how the ETL tool integrates with Tableau to transform and visualize COVID dataset, improving data accessibility.

PROJECT & RESEARCH

Methane Optimizer

May 2020 – July 2020

React JS, Tailwind CSS, SQL, JWT, Node.js, AWS

- Led the development of a React JS application to visualize methane optimization in a Urea plant. The application visualized methane output levels and optimized control parameters, powered by CNN deep learning models.

Anomaly Detection in IoT Devices

August 2024 – Dec 2024

[Link](#)

- Explored unsupervised learning algorithms for anomaly detection in IoT devices, eliminating the need for labeled data while achieving strong detection performance.

Research Article (Journal of Environmental Management)

July 2022 – Jan 2024

[Link](#)

- Contributed to research on green procurement dynamics in the public sector, developing an assessment framework to help developing nations make data-driven decisions towards green environmental practices.

EDUCATION

University of Maryland

Master in Engineering, Software Engineering, Cumulative GPA: 3.52/4.0

College Park, MD

Jan 2024 – Dec 2025

Teaching Assistant | *System Design and Scaling, transformer models, FastAPI, Faiss*

Vellore Institute of Technology

Bachelor of Technology in Computer Science and Engineering

Vellore, India

June 2017 – May 2021

TECHNICAL SKILLS

Programming: Python, JavaScript, Flask, REST APIs, SQL (PostgreSQL, MySQL), NoSQL, Redis, Kafka, Django

DevOps & Cloud: AWS, Docker, Kubernetes (K8s), ArgoCD, Jenkins, CI/CD pipelines, Terraform

Systems: Microservices, Distributed Systems, Scaling Systems, Object-Oriented Design, Unit Testing

Other: Git/GitHub, Windows, Linux, Data Structures & Algorithm, Communication, Innovation

AI: Cursor, NLP (transformer models), LLM (Claude, GPT), Deep Learning & ML (Pytorch, SGD, scikit-learn), Gradio