Samir Sanyal

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Education

Indiana University Bloomington **August 2024 – May 2026**
MS in Computer Science *Bloomington, IN*

Vellore Institute of Technology **June 2017 – July 2021**
BTech in Computer Science *Chennai, TN*

Relevant Coursework

- Data Structures
- Algorithms Analysis
- Artificial Intelligence
- Software Engineering
- Software Methodology
- Database Management
- Data Science
- System Architecture

Experience

Dover Corporation **June 2025 – November 2025**
Software Engineering Intern *Chicago, IL*

- Automated Azure cost allocation pipelines using **Python, Azure SDK, and DevOps YAML** pipelines, enabling monthly OpCo-level financial reporting.
- Designed scripts to process large **CSV/Excel billing datasets** and generate consolidated chargeback reports in Excel with pivot-like summaries.
- Applied best practices in **Git branching, PR reviews, and CI/CD** pipelines, ensuring production-ready automation across multiple subscriptions.

Dr Lalpathlabs Ltd **August 2021 – May 2024**
System Engineer *Gurugram, HR*

- Addressed complex enterprise challenges in AWS and Azure environments, developing cost and performance optimization strategies to enhance operational efficiency across both platforms. Improved efficiency by **65%**.
- Implemented a cost optimization strategy resulting in a significant annual cost reduction of **$6,500** in AWS services and **$10,000** in Azure services.
- Mastered cloud support and identity access management (IAM) while developing automation tools using SQL, Python, and PowerShell; generated streamlined workflows that increased efficiency by saving approximately **12 hours** weekly.
- Designed high-performance python automation scripts to automate manual daily tasks thus increasing the productivity by **45%**.
- Spearheaded the development of Key Query Language (KQL) queries, resulting in an **80%** reduction in manual labor for data analysis tasks. This optimization streamlined processes, reducing the time required to complete tasks from hours to just **5 minutes**.
- Engineered a comprehensive Continuous Integration/Continuous Deployment system leveraging best practices within AWS architecture resulting in reduced lead times for new feature rollouts totaling approximately **40%** efficiency improvement overall.

Projects

Cloud-Based Weather Forecasting System | *Kinesis, Lambda, S3, SageMaker, PyTorch, API* **Jan 2025 - May 2025**

- Replaced **6–12 hr** batch runs with a real-time stream (NOAA → Kinesis (4 shards, 2 MB/s) → Lambda → S3), cutting end-to-end latency by **99%** (from 6–12 hrs to 5 min design) and validating ops with a 11 min budget-alert latency.
- Switched model training to **SageMaker** Spot and added AWS Budgets ($20 threshold) + SNS; this reduced projected training cost by up to **70%** while keeping spend inside alerting guardrails.

LAPD Crime Prediction & Visualization App | *Python, Flask, Random Forest, JS, HTML* **Aug 2024 – Dec 2024**

- Developed a **full-stack web application** that predicts crime types using LAPD crime data and displays interactive heatmaps for crime hotspots.
- Built a **Flask API** to serve predictions, accepting **JSON input** and returning predicted labels with probability scores.Designed a clean **HTML/CSS/JavaScript** frontend for user interaction.

Technical Skills

Languages: C++, C, Python, Powershell, SQL, KQL, Java, JS
Database and Cloud tools: MSSQL, Postgres, MySQL, DynamoDB, AWS, Azure
OS & DevOps: Windows OS, Linux OS – Ubuntu, RHEL, Docker, GitHub, Git, CICD AWS, Azure Devops, Kubernetes

Certifications, Publications and Honors

Microsoft - Certified Azure Fundamentals July 2022
Certified AWS Cloud Practitioner July 2023
Microsoft AI-900 January 2024