SARVESH SIRAS

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PROFESSIONAL EXPERIENCE

Mastercard   Pune, India
Software Development Engineer II   July 2021 - July 2024
- Engineered high-throughput REST and async APIs for a **global tokenization platform (1.5K TPS)**, improving transaction notification rates across **Apple Pay, Samsung Pay, and Google Pay by 50%**
- Spearheaded migration to microservices architecture, improving scalability and performance of the system
- Leveraged tools like **Splunk** and **Dynatrace** to analyze the performance of critical features, identifying and resolving bottlenecks to enhance system response times by **300%**
- Collaborated with cross-functional teams to define technical requirements and deliver features **30% faster** through Agile sprint planning
- Directed **code reviews and refactoring** using modern design principles, improving maintainability and reducing development time by **60%**

Mastercard   Pune, India
Software Engineer Intern   May 2020 - June 2020
- Partnered with the Operations and Technology team to develop an e-commerce REST application using technologies like Spring boot, Java, React, and H2 for in-house enterprise applications
- Developed a mocking framework that reduced prototyping time by **50%**, enabling faster iteration cycles

EDUCATION

Carnegie Mellon University   Pittsburgh, PA
Master of Information Systems Management (GPA: 4.0) (Highest Distinction)   Aug 2024 - Aug 2025
Coursework: Distributed Systems, Machine Learning in Production, Data Structures and Algorithms, Introduction to Deep Learning, Object Oriented Programming in Java, Design Thinking, Statistics, Generative AI Lab

College of Engineering Pune (COEP) Technological University   Pune, India
Bachelor of Technology (B.Tech.), Information Technology (GPA: 3.61)   Aug 2017 - May 2021
Coursework: Data Structures and Algorithms, Distributed Systems, Principles of Programming Language, Computer Networks, Operating Systems, Database Management Systems, Software Engineering

SKILLS & CERTIFICATIONS

Programming Languages: C, C++, Java, Python, SQL, HTML, CSS, JavaScript
Technological Skills: Spring Boot, Git, Kafka, Splunk, Dynatrace, Linux, CI/CD, LLMs, SDLC, Spark, AWS, NoSQL, Agentic AI
Certifications: IBM Machine Learning Professional Certificate, Specialization in Python by University of Michigan

PROJECTS

RegHealth Navigator   May 2025 - Aug 2025
- Built an **AI-powered compliance assistant** that automates Medicare rule analysis using **Retrieval-Augmented Generation (RAG)**, GPT-4o, and **FAISS-based semantic search**, reducing policy review time and cost by **53%**
- Architected **Flask** backend APIs for Q&A, summarization, and comparison modules with **95%** answer accuracy
- Optimized pipelines with async processing and caching, reducing API costs by **80%,** enabling **real time responses**
- Deployed and tested the platform on cloud infrastructure, achieving **9.4/10 user satisfaction** across evaluations

Production-Ready Movie Recommendation System   Jan 2025 - May 2025
- Designed a movie recommendation system using collaborative filtering, serving **1M+** users with Python/Flask, achieving **99%** service availability, handling **more than 2K** daily requests with **<800ms** latency
- Designed modular ML pipeline with Kafka-based ingestion, feature engineering, and model training using Python
- Automated infrastructure testing and CI/CD with Jenkins and pytest, achieving 90%+ code coverage
- Containerized services with Docker and implemented rolling updates, Prometheus-Grafana monitoring, and A/B testing infrastructure and load balancing using Kubernetes
- Enhanced model resilience by analyzing telemetry data for fairness, bias detection, and mitigating security risks

PUBLICATIONS

A Deep Learning Approach for Digitization of Invoices, IEEE   Jan 2024