

# Darshan Potnis

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## Summary

**Software Engineer** with hands-on experience building **scalable backend systems**, **distributed services**, and **cloud-native applications**. Strong foundation in **Data Structures & Algorithms**, **Object-Oriented Programming (OOP)**, and **system design principles**. Experienced in developing **production-grade REST APIs**, solving performance bottlenecks, and delivering reliable software using **Python**, **JavaScript**, and **AWS**.

## Education

- **University of Southern California**, Los Angeles, CA Jan 2024 – Dec 2025  
M.S. in **Applied Data Science**
- **BSE Institute**, Mumbai, India Jun 2022 – Jul 2023  
Post Graduate Diploma in **Predictive Analytics**
- **S.I.E.S College of Arts, Science and Commerce**, Mumbai, India Aug 2019 – Jun 2022  
B.Sc. in **Computer Science**

## Experience

### 99 Yards

Remote

*Software Engineer Intern*

Jun 2025 – Aug 2025

- Designed and implemented **scalable RESTful backend services** using **FastAPI**, **PostgreSQL**, and **Docker** on **AWS Fargate**, applying **OOP** and clean architecture principles.
- Built a **Redis Streams-based event pipeline** to support real-time synchronization, **reducing API latency by 45%** under concurrent workloads.
- Developed **CI/CD pipelines** using **GitHub Actions** and **Terraform**, enabling automated testing, blue-green deployments, and safe production rollouts.
- Reviewed code, improved modularity, and contributed to technical documentation to ensure **maintainable and reliable releases**.

### Scienox Technologies

Mumbai, India

*Backend Engineering Intern*

Oct 2022 – Apr 2023

- Built **real-time data ingestion services** using **Flask**, **PostgreSQL**, and **AWS EC2** to support latency-sensitive financial workflows.
- Optimized **SQL queries** and implemented **Redis caching**, **reducing API response time by 40%**.
- Improved system reliability by adding **logging**, **health checks**, and **alerting**, helping maintain **99.9% uptime**.

## Skills

- **Languages:** Python, JavaScript, Java, C++, SQL
- **Backend & Frameworks:** FastAPI, Flask, Node.js, Express, Django
- **Cloud & DevOps:** AWS (EC2, S3, Lambda, Fargate), GCP, Docker, Terraform, GitHub Actions, CI/CD
- **Databases:** PostgreSQL, MongoDB, MySQL, Redis, Firebase
- **Core CS:** Data Structures & Algorithms, **Object-Oriented Programming (OOP)**, Multithreading, Time & Space Complexity
- **Engineering Concepts:** REST APIs, Microservices, Distributed Systems, System Design
- **Testing:** pytest, JUnit, Selenium, Unit & Integration Testing

## Projects

- **Cloud File Storage Platform** [Node.js, React, AWS S3, PostgreSQL, Docker, CI/CD]
  - Designed and built a **secure, scalable object storage service** supporting **resumable uploads**, **role-based access control**, and multi-user file management.
  - Optimized backend architecture using **AWS S3 pre-signed URLs**, **stateless REST APIs**, and efficient request handling, **reducing backend workload by 70%**.
  - Implemented metadata persistence with **PostgreSQL** and deployed full-stack services using **Dockerized microservices** and **automated CI/CD pipelines**.
- **Real-Time Collaborative Code Editor** [React, Node.js, Socket.IO, WebSockets, Monaco Editor]
  - Designed and developed a **real-time collaborative editor** enabling **concurrent multi-user editing** with **sub-200ms synchronization latency**.
  - Implemented **room-based collaboration**, **presence indicators** (live cursors, typing indicators), and language switching for a **Google Docs-style experience**.
  - Engineered **WebSocket state reconciliation**, **event ordering**, and **echo-loop prevention** to maintain **consistent shared editor state** under concurrency.
- **AI Storyboard Generator** [Python, GPT, Stable Diffusion, Redis, Flask]
  - Built an **automated content generation pipeline** converting scripts into visual storyboards using **LLM-based text parsing (GPT)** and **image generation (Stable Diffusion)**.
  - Improved system throughput by **30%** through **Redis-based caching**, pipeline optimization, and asynchronous task handling.
  - Exposed generation workflows via **Flask REST APIs**, enabling scalable and modular integration.

## Certifications & Achievements

- **AWS Cloud Practitioner**, **Google Cloud Digital Leader**, **Python (HackerRank)**
- **Finalist – USC Data Science Hackathon:** Forecasted Lyft ride demand using real-time data; improved dashboard latency by **30%**.
- **Winner – FinTech Hackathon:** Built anomaly detection microservice with a 5-member team; **reduced false positives by 18%**.