

DARSH PATEL

+91-9104323119 | daksh4765@gmail.com

darshpatel.dev | github.com/darshpatel1052 | [linkedin.com/darshpatel52](https://www.linkedin.com/in/darshpatel52)

EDUCATION

IIT Jodhpur | Bachelor of Technology in Artificial Intelligence and Data Science (CGPA: 8.45 / 10.0) 2023 – 2027 (Expected)

EXPERIENCE

Oracle | Software Engineering Intern | [GitHub](https://github.com) May 2026 – Jul 2026

- Shipped @mastra/oracledb, a first-party **Oracle Database provider** for the open-source **Mastra** framework, enabling persistent storage for memory, workflows, observability, agents, and MCP clients; reached **3000+ monthly npm downloads**.
- Integrated **Oracle AI Vector Search** with exact, **HNSW and IVF retrieval**, batched vector upserts, and metadata filtering for multi-condition queries using parameterized, **injection-safe SQL**.
- Designed shared **connection pooling, repeatable schema migrations, transaction-safe persistence, and offline DDL/schema export**, while validating storage and vector interfaces through **640+ Oracle Database integration tests**.

Reetape Technologies | Software Developer Intern Feb 2025 – Apr 2025

- Developed a real-time voice customer-service agent using **Ollama**-hosted local LLM inference, response streaming, and speech synthesis for low-latency spoken conversations.
- Implemented a **Next.js + WebRTC** audio pipeline with microphone capture and silence detection, achieving **client-side latency below 200 ms**.
- Accelerated backend responses by approximately **5x** through response-streaming and audio-generation optimizations.

PROJECTS

DevSentinel: GitHub Code Repair System | [GitHub](https://github.com) Jul 2026 – Aug 2026

- Engineered an event-driven GitHub issue resolver that turns comments into scoped fixes and draft pull requests; coordinated **PostgreSQL and BullMQ** jobs, authenticated Fastify webhooks, and verified patches in **Docker** before publication through a GitHub App.
- Established **6 application-level security gates** for repository permissions, file scope, secret filtering, execution isolation, resource limits, and patch checks; preserved token and tool budgets across crashes.
- Hardened crash recovery with **durable checkpoints** that retain LLM outputs and Docker test results; delivered an authenticated SSE dashboard for progress, diffs, logs, and token usage; validated with **125 unit tests** and **45 integration tests**.

PeerShare: Distributed Video-Sharing Platform | [GitHub](https://github.com) Apr 2026 – Jun 2026

- Architected a **Go/Next.js** video-sharing platform for adaptive HLS publishing and verified **WebRTC** segment exchange, backed by Kafka-driven media processing, gRPC coordination, and PostgreSQL **transactional outboxes**.
- Optimized PostgreSQL queries and indexes, added Redis caching and **distributed rate limiting**, and configured Envoy load balancing; benchmarked **800 API operations/sec** at **p99 latency below 100 ms** across 100k synthetic video records.
- Automated AWS provisioning with **Terraform** and container releases with **GitHub Actions**; deployed services on EC2 with private S3 storage and CloudFront delivery, using OIDC credentials and **immutable ECR images**.

AlgoViz: Interactive Machine Learning Visualizer | [GitHub](https://github.com) Feb 2025 – Apr 2025

- Co-developed a full-stack **React + Flask** platform supporting interactive training and real-time parameter tuning for **8+ supervised and unsupervised ML algorithms**, including SVM, KNN, Decision Trees, ANN, K-Means, DBSCAN, PCA.
- Delivered interactive **decision-boundary, clustering, convergence, and training visualizations** with configurable datasets and hyperparameters; containerized with **Docker**, deployed through **Google Cloud Run and Firebase**, and adopted by **100+ students**.

TECHNICAL SKILLS

Languages: C, C++, Go, Java, Python, TypeScript, JavaScript, SQL

Frameworks & APIs: React, Next.js, Node.js, Fastify, FastAPI, Flask, REST, gRPC, WebRTC

Databases & Messaging: Oracle Database, PostgreSQL, pgvector, Redis, Kafka, BullMQ

AI & ML: PyTorch, scikit-learn, NumPy, pandas, Mastra, LangChain, Ollama

Cloud & DevOps: AWS (EC2, S3, CloudFront, ECR), GCP, Docker, Terraform, GitHub Actions (CI/CD)

Tools & Observability: Git, Envoy, Prometheus, Grafana, Jaeger, OpenTelemetry

COURSEWORK

Deep Learning (A) • Machine Learning (A*) • Data Structures & Algorithms • Operating Systems (A) • Computer Networks (A)
Computer Architecture (A) • Computer Vision • Natural Language Understanding • Intro to Computer Science (A)

POSITIONS OF RESPONSIBILITY

Teaching Assistant — CSL1010: Intro to Computer Science, IIT Jodhpur

2025

Team Member — Training & Placement Cell (TPC), IIT Jodhpur

2025

ACHIEVEMENTS & EXTRACURRICULARS

- Achieved **Knight** on LeetCode with a peak rating of **1894**. | [LeetCode](https://leetcode.com)
- Secured a **Top 100** finish in the Amazon HackOn Hackathon.
- Selected from **60,000+** applicants for Amazon ML Summer School and completed training in ML, causal inference, and LLMs.