

# JAY HEMNANI

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San Jose, CA

## Education

### San José State University

Jan 2025 – Present | San Jose, CA

*M.S. in Applied Data Intelligence*

- **Coursework:** Distributed Systems, Big Data Analytics, Data Warehousing, Software Architecture.

### Pandit Deendayal Energy University (PDEU)

2018 – 2022 | Gandhinagar, India

*B.Tech in Computer Engineering | GPA: 8.7/10*

- **Coursework:** Operating Systems, Computer Networks, Database Systems, Software Development.

## Technical Skills

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

**Backend:** Node.js, Express, FastAPI, REST APIs, GraphQL, gRPC, Microservices Architecture

**Distributed Systems:** Apache Kafka, Redis, Message Queues, Event-Driven Architecture, Load Balancing

**Databases:** PostgreSQL, MySQL, MongoDB, Redis, TimescaleDB, Database Design

**Cloud & DevOps:** AWS (EC2, S3, Lambda, ECS), Azure, Docker, Kubernetes, GitHub Actions, CI/CD

**Tools:** Git, Linux, Nginx, JWT, OAuth, API Gateway, Rate Limiting

## Experience

### Data Analyst, Elite Hotel Group

Summer 2025 | San Jose, CA

- Engineered **automated data pipelines** using Python and SQL, reducing manual processing by **40%** and improving system reliability across multi-property workflows.
- Built **REST APIs** for internal dashboards integrating with Tableau/Power BI for real-time KPI tracking.

### Independent Technical Consultant,

2022 – 2024 | Remote

- Provided **backend development and infrastructure consulting** for small businesses, building APIs and deployment pipelines.

### AI/ML Intern, Amnax

Jan – May 2022 | Gujarat, India

- Built **fraud detection backend** using Python with REST APIs for model serving, achieving **94% precision** on transaction classification.
- Developed **automated reporting services** with scheduled jobs and database integrations for operational analytics.

### Software Engineering Intern, Cactus Creatives

May – Nov 2019 | Gujarat, India

- Built **cloud-native communication platform** for first responders using microservices architecture on Azure, implementing REST APIs for real-time dispatch.
- Configured **CI/CD pipelines** with automated testing and deployment workflows, reducing deployment time by **60%**.

## Projects

### Kayak — Distributed Travel Platform | Node.js, MySQL, MongoDB, Redis, Kafka, Docker

- Engineered **3-tier distributed architecture** with API Gateway handling JWT authentication, rate limiting, and request routing to independent microservices.
- Designed **horizontal scaling strategy** with independent User, Search, and Booking services for fault isolation and independent deployment.
- Achieved **sub-100ms API latency** via Redis caching; implemented **Kafka event streaming** for real-time inventory sync across services.

### Stock Data Platform — Streaming Backend | Python, Kafka, Airflow, TimescaleDB, Docker

- Built **distributed streaming architecture** using Kafka for real-time tick ingestion with idempotent writes and producer buffering.
- Designed **hybrid storage layer** with TimescaleDB hypertables for time-series data and star schema for analytics queries.
- Implemented **batch processing pipelines** with Airflow for scheduled ETL, backfills, and data validation.

### BarcaBrain — Backend Services | Python, FastAPI, FAISS, Redis

- Built **REST API** for vector similarity search serving 10,000+ player records with **<100ms response time**.
- Implemented **caching layer** with Redis for frequently queried player comparisons and search results.