# JAY HEMNANI

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Gujarat, India (Open to Relocate)

## Education

**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 & Indexing
**Cloud & DevOps:** AWS (EC2, S3, Lambda, ECS), Azure, Docker, Kubernetes, GitHub Actions, CI/CD
**Tools:** Git, Linux, Nginx, JWT/OAuth, API Gateway, Prometheus, 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.

**Technical Consultant**,  2022 – 2024 | Remote
- Provided **backend development and infrastructure consulting** for small businesses, building APIs, deployment pipelines, and automation solutions.

**AI/ML Intern**, *Amnex*  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 with 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.

**Airbnb — Cloud-Native Booking Platform** | *React, Node.js, MongoDB, Kafka, Docker, K8s*
- Built **full-stack booking platform** with React frontend and Node.js microservices, deployed on Kubernetes with auto-scaling and health monitoring.
- Implemented **Kafka-based event bus** for asynchronous communication between booking, search, and notification services.
- Integrated **AI-powered travel planning** using LangChain agents for personalized recommendations within the booking workflow.

**CAG Deep Research — Multi-Agent System** | *Python, LangGraph, FastAPI, PostgreSQL*
- Architected **multi-agent orchestration system** with LangGraph, coordinating 5+ specialized AI agents to autonomously synthesize research reports.
- Built **FastAPI backend** with PostgreSQL persistence, handling concurrent agent workflows with state management and retry logic.