Dhyey Patel

BACKEND ENGINEER | PYTHON DEVELOPER | AI/ML SYSTEMS

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PROFESSIONAL SUMMARY

Backend-focused Computer Science undergraduate with hands-on experience developing Python applications, REST APIs, enterprise workflow systems, and AI-integrated platforms. Experienced with **FastAPI, Django, Flask, SQLAlchemy**, and relational databases. Interested in building secure, maintainable backend systems, designing data-driven applications, and integrating machine learning capabilities into practical software products.

EDUCATION

Karnavati University — Unitedworld Institute of Technology

B.Tech, Computer Science | 2024–2028 | Ahmedabad, Gujarat

TECHNICAL SKILLS

Languages	Python, JavaScript, SQL
Backend & APIs	FastAPI, Django, Flask, REST APIs, JWT Authentication, SQLAlchemy
Databases	PostgreSQL, SQLite, MySQL, MongoDB
AI / ML	Scikit-learn, LightGBM, SHAP, Pandas, NumPy
Frontend	React, Next.js, HTML, CSS
Tools	Git, GitHub, Docker, Linux, Postman, AWS

EXPERIENCE

Adrine — Software Product Engineering Intern *Core Product & Engineering* Oct 2026 – Dec 2026

- Contribute to real product development across frontend, backend, API, database, and authentication/authorization work.
- Debug, test, and review code while following Adrine's security, source-control, and documentation practices.
- Understand requirements before implementation and make practical technical decisions within the existing architecture.

Labmentix — Python Development Intern *Training Internship Program* May 2026 – Present

- Develop Python backend features and REST API functionality for AI-focused software applications.
- Translate application requirements into modular backend components while collaborating with engineering team members.
- Investigate application performance issues, including database operations and third-party API processing, through debugging and profiling.

SELECTED PROJECTS

Finora — Multi-Company Cloud ERP

View on GitHub ↗

FastAPI, Python, PostgreSQL, SQLAlchemy, Next.js

- Developed a multi-company ERP connecting accounting, inventory, purchasing, billing, and sales workflows.
- Implemented double-entry accounting and linked sales and purchase operations with inventory and ledger updates.
- Designed relational models with company-scoped records, audit logging, and precise decimal handling.

Procura — Multi-Tenant Procurement Platform

View on GitHub ↗

Django, DRF, React, PostgreSQL, SimpleJWT

- Built procurement workflows covering purchase requests, vendor quotations, approvals, purchase orders, and invoices.
- Implemented threshold-based sequential approvals and department budget checks.
- Added role-based access, organization-level data isolation, and audit tracking.

NexRail AI — Dynamic Railway ETA & Decision Intelligence

View on GitHub ↗

Python, FastAPI, LightGBM, Scikit-learn, SHAP, SQLite, React

- Developed an AI railway intelligence platform for dynamic train ETA using operational, route, historical punctuality, and weather features.
- Integrated LightGBM inference with FastAPI and live telemetry and weather context.
- Implemented delay propagation, SHAP explainability, disruption simulation, and operational recovery recommendations.

EduFusionERP — Educational Management ERP

View on GitHub ↗

Python, Flask, SQLAlchemy, SQLite, JavaScript, Bootstrap

- Built an academic management platform with admin, teacher, and student workflows.
- Implemented user and class management, subjects, timetables, attendance reporting, assignments, and notifications.
- Added QR-supported attendance and relational data models.

Vocalis — Multilingual Text-to-Speech Application

View on GitHub ↗

Python, Flask, React, SQLAlchemy, SQLite, ElevenLabs API

- Built a text-to-speech application integrating ElevenLabs for audio generation with language and voice options.
- Developed Flask APIs for speech generation, validation, provider errors, audio delivery, and rate limiting.
- Implemented authenticated accounts, Google OAuth, generation history, protected audio streaming, and generation management.

ACHIEVEMENTS & RECOGNITION

36-Hour University Hackathon — 1ST PLACE WINNER

View on GitHub ↗

- Our team secured 1st place in a 36-hour hackathon organized by Karnavati University.
- We developed **Trackademic AI**, an AI-powered academic management platform designed to help students organize their academic lives.
- The platform includes an AI academic assistant, smart study planner, assignment and task management, deadline reminders, notes management, and a student dashboard.
- Built using a Python backend, SQL database, and HTML/CSS/JavaScript frontend.

Smart India Hackathon — TEAM REBELCODERS

View on GitHub ↗

- Smart India Hackathon: Team RebelCoders; project NexRail AI, Problem Statement PS 26028 – Dynamic Forecast of Expected Time of Arrival (ETA) for Coaching Trains. Team ranked 20th among 360 teams in the preliminary evaluation and was selected among 90 teams for the next stage.
- **NexRail AI** is an AI-powered railway ETA prediction and decision intelligence platform. It uses LightGBM-based prediction, live railway operational telemetry, weather context, and delay propagation analysis to provide dynamic train arrival estimates. It also includes explainability and operational recovery recommendations to support railway controllers.