

# Prakhar Dwivedi

+91 9354894089 · [prakhar.dwivedi.3782@gmail.com](mailto:prakhar.dwivedi.3782@gmail.com) · [Portfolio](#) · [GitHub](#) · [LinkedIn](#) · [LeetCode](#) · [Codechef](#) ·

## SUMMARY

Software engineering student experienced in building and deploying backend-heavy, AI-powered web systems. Comfortable working with unstructured data, APIs, and real-time services, and translating complex technical systems into reliable user-facing workflows.

## EDUCATION

IIIT Bhopal

B.Tech, Electronics & Communication Engineering, **CPI: 8.74**

Nov 2023 – June 2027, Coursework: DSA, OOP, DBMS, CN, Systems

## EXPERIENCE

### Software Developer (Freelance)

[IndiaPaathy](#) (NGO-backed initiative) | Dec 2025 – Present

- Developing and deploying a full-stack platform for an NGO-backed initiative to centralize discovery of homeopathic and naturopathic doctors across India.
- Working directly with stakeholders to translate domain requirements into clear technical workflows and production deployments.

## PROJECTS

### PanditAI (2025)

Next.js, Python (FastAPI), Socket.IO (WebSockets), Redis, MongoDB, Docker

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- Built and deployed an **AI-driven** application that converts complex domain rules and astronomical computations into structured, machine-readable outputs consumed by **LLMs** for natural language responses.
- Benchmarked production backend performance, measuring **~5.4s cold-start latency** and **~2.2s median warm-request latency**; achieved **~60%** improvement through Redis caching and request lifecycle optimization.
- Reduced Docker image size by **~700MB** by removing unnecessary GPU dependencies, improving deployment reliability on managed cloud infrastructure.
- Enforced strict frontend–backend contracts using Pydantic schemas and TypeScript types, reducing integration errors and ensuring deterministic **API behavior**.

### eVakeel (2025)

Python (FastAPI), React, REST APIs, WebSockets, Docker | [Live Site](#) · [GitHub](#)

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- Designed a hybrid backend architecture separating high-concurrency I/O (Node.js) from compute and **ML-intensive** workloads (Python), improving system clarity and maintainability.
- Built a document understanding and QA system that transforms unstructured legal texts into searchable knowledge using embeddings and semantic retrieval, enabling low-latency **AI** responses.
- Achieved **~50ms warm-start query latency** under steady-state conditions by **optimizing retrieval pipelines** and **caching** frequently accessed document embeddings.
- Deployed **containerized** services on cloud infrastructure with reverse proxying, ensuring stable request handling and production-grade reliability.

## ACTIVITIES AND LEADERSHIP

- Spearheaded a team of 4 in developing an AI-fueled career counseling web app, integrating chatbot interactions and ML-based recommendations; secured a **Top 10 position at Hack-O-Sprint 2024**.
- Organized and led the first-ever **Inter-IIIT Hackathon** internal round, engaging **40+** teams across departments.
- Managed end-to-end logistics for **Convocation 2024**, handled on-ground logistics and issue resolution for **500+** attendees

## ACHIEVEMENTS

- Achieved **top 12K rank among 262K** participants in **Adobe India Hackathon 2025**, placing in the **top 5% nationally**
- Ranked 1st** in the **ECE department** with a **9.32 SGPA** in **Semester 3**, demonstrating consistent academic excellence
- 1799** LeetCode & **1614** CodeChef (3★); solved **250+** DSA problems across **LeetCode**, **CodeChef** and **GeeksForGeeks**
- Directed **3+** peer sessions as **Teaching Assistant** for **Digital Logic Design**

## SKILLS

- Languages:** C, C++, Python, TypeScript, JavaScript, SQL
- Frameworks & Libraries:** React, Next.js, Node.js, Fastify, Prisma, NextAuth.js, Tailwind CSS, Framer Motion
- Databases:** PostgreSQL, MySQL, SQLite
- Concepts:** REST APIs, Authentication & Authorization, Caching Strategies, Real-Time Systems, Backend Architecture
- Tools:** Git, GitHub, Docker, Linux (basics)