

# Prakhar Dwivedi

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## SUMMARY

Software engineering student with hands-on experience developing and deploying web applications, spanning backend services, API design, and application-level integration across systems.

## EDUCATION

### IIT Bhopal

*B.Tech, Electronics & Communication Engineering* (GPA: 8.74/10.00)

**Nov 2023 - Jun 2027**

- **Coursework:** DSA, OOP, DBMS, CN, Systems

## EXPERIENCE

### IndiaPaathy | *Fullstack Developer (Freelance)*

**Dec 2025 - Present**

- Building a full-stack platform for an NGO-backed initiative, implementing authenticated REST APIs (15+ endpoints) and backend logic using Next.js, Prisma, and React.

## PROJECTS

### PanditAI | Live Site

**Nov 2025 - Jan 2026**

- Built and launched a full-stack AI application using **FastAPI** and **Next.js**, integrating astronomical computations, knowledge-graph reasoning (**Neo4j**), and LLM-based natural language generation
- Benchmarked production backend performance, observing **~5.4s cold-start latency** and **~2.2s median warm-request latency**, with **~60% performance improvement** after cache warm-up
- Optimized **Docker** builds by removing GPU dependencies, reducing backend image size by **~700MB** and improving deployment reliability on managed cloud infrastructure
- Validated frontend-backend API contracts using **Pydantic** and **TypeScript** types, enforcing strict schemas and preventing runtime integration errors across services

### eVakeel | Live Site

**Oct 2025 - Nov 2025**

- Engineered a full-stack web application with a **React/Next.js** frontend and **Node.js + Python (FastAPI)** backend, designing APIs and data flows to support complex document-based user interactions
- Implemented a production-grade legal document QA system over **~63 high-density legal chunks** (Acts), integrating **InLegalBERT** for semantic retrieval and achieving **~50ms warm-start query latency** under steady-state conditions.
- Containerized and operated the application using **Docker**; used **Redis** for caching and structured logging for observability
- Processed **10 document templates**; reduced average document-to-embedding time **from 12s to 1.2s** (measured on 100 test docs), and cut median API response latency **from 340ms to 190ms** after adding Redis caching

## ACHIEVEMENTS

- Selected as **Mentee for Linux Open Source Foundation** for **The Magma Core project** alongside 137 students
- 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
- **Codeforces:** 1308 (Pupil); **CodeChef:** 1614 (3); **LeetCode:** 1799; solved **380+ DSA problems** across platforms.

## ACADEMIC AND LEADERSHIP

### XPLOIT Club, IIT Bhopal | *Offensive Security Lead*

**Sep 2025 - Present**

- Learning Offensive cyber security and fostering a culture of ethical hacking.
- Organized campus-wide CTF with 100+ participants. Conducting weekly workshops on web exploitation and cryptography.

### IIT Bhopal | *Teaching Assistant - Digital Logic Design*

**Feb 2025 - May 2025**

- Selected based on academic excellence to assist faculty with evaluation and peer mentorship for a batch of 60+ students.
- 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:** Data Structures & Algorithms, REST APIs, Authentication, Database Design
- **Tools:** Git, GitHub, Docker, Linux (basics)