ADITYA PANDEY

Haldwani, Uttarakhand, India

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Professional Summary

Computer Science undergraduate with a strong focus on backend engineering, operating systems, and scalable APIs. Hands-on experience building production-grade backend services with authentication, secure payment flows, asynchronous processing, and real users. Comfortable working with Linux systems and interested in backend, distributed systems, and security-focused software products.

Education

Graphic Era Hill University, Bhimtal   **July 2023 – Present**
B.Tech, Computer Science and Engineering

Nirmala Convent Sr. Sec. School, Kathgodam   **April 2020 – March 2023**
Class XII (2023), Class X (2021)

Data Structures & Algorithms

- Solved 250+ DSA problems across LeetCode, GeeksforGeeks, and CodeChef.
- Strong in Arrays, Strings, Trees, Graphs, Recursion, Dynamic Programming, and Hashing.
- Comfortable with time and space complexity analysis and optimization.

Relevant Coursework

- Data Structures
- Database Management
- Artificial Intelligence
- Internet Technology
- Systems Programming
- Computer Architecture

Certifications

- Data Structures and Algorithms — UC San Diego (Coursera)
- IBM AI Engineering — IBM
- Meta Full Stack Developer — Meta

Projects

Natural Language Shell Interface   **Aug 2025 – Present**
Systems & Backend Developer   ⭕ *GitHub*

– Built a natural language shell translating user intent into executable Linux commands using Google Gemini AI, supporting **30+ command patterns**.
– Implemented a custom **mini-bash shell in C** handling command parsing, process creation (fork/exec), and secure execution.
– Designed a real-time client–server architecture using **Flask REST APIs and WebSockets**, streaming command output with **¡100ms latency**.
– **Core Focus:** Operating Systems, process management, Linux internals, client–server systems.

FunPrinting — Automated Cloud Printing Platform   **July 2024 – Present**
Lead Backend & Full-Stack Developer   *Live —* ⭕ *GitHub*

– Built and deployed a production-grade backend platform using **Next.js (API routes)** and Node.js runtime, serving 100+ users with zero downtime.
– Designed RESTful APIs, authentication flows, and role-based access using OAuth and secure payment verification via **Razorpay**.
– Implemented an **asynchronous backend job queue** for print processing with real-time admin monitoring, reducing manual intervention by 80%.
– **Backend Focus:** API design, authentication, secure transactions, async processing, database-backed systems.

Technical Skills

- **Programming Languages:** Go, JavaScript (Node.js), C++, Python, C
- **Backend & Systems:** REST APIs, Authentication, Linux, Operating Systems, Process Management
- **Databases:** MongoDB, PostgreSQL, Firebase
- **Web:** Next.js, React, Tailwind CSS
- **Tools & Platforms:** Git, GitHub, VS Code, Vercel, Render
- **Core Concepts:** Data Structures, Algorithms, DBMS, Cloud Computing, System Design