

Dhruv Ranjan

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SUMMARY

Computer Engineering undergraduate who ships production backend systems end to end, including a production-grade mock-test platform live on AWS. Completed an **NVIDIA Conversational AI** course (data science, **NLP**, speech processing, **generative AI**); solved **700+ DSA problems** across LeetCode, GeeksforGeeks and Codeforces.

TECHNICAL SKILLS

Programming Languages: JavaScript/TypeScript, Python, C/C++, SQL
Frameworks: React.js, Node.js, Prisma, Mongoose, FastAPI, Flask
Databases & Streaming: PostgreSQL, MySQL, MariaDB, MongoDB, Redis, Kafka
Cloud, DevOps & Tools: AWS, Docker, Kubernetes, GitHub Actions (CI/CD), Linux, Git, Postman
Core CS: DSA, DBMS, Operating Systems, Computer Networks, OOP, REST APIs, System Design
AI Coursework (NVIDIA Conversational AI): Data Science, NLP, Speech Processing & Synthesis, Generative AI

EXPERIENCE

- Software Developer (Freelance)** | [Entrance UG ↗](#) | *React, Node.js, PostgreSQL, AWS* June 2026 – Aug. 2026
- Architected and shipped a **four-product exam-prep platform serving 500+ students** — timed mock exams, course library, reading-comprehension drills and cohort mentorship — on a single **Postgres schema of 100+ tables** with four role-based portals (student, parent, mentor, admin)
 - Built the payments layer so money and access can never disagree — gateway-verified capture, idempotent settlement, hourly reconciliation — proven across **29 payment scenarios**
 - Replaced form-by-form content entry with a dry-run bulk importer spanning all four products, now carrying **99.7% of a 5,000-question bank**
 - Built and instrumented the API's **CI/CD pipeline on AWS** — GitHub Actions → ECR → SSM onto EC2 — then **cut image build 40%** (1m50s to 1m06s) by caching the dependency layer
- Full Stack Intern** | *Enerbuff Solutions* | *React Native, Node.js, MySQL, AWS* Aug. 2026 – Present
- Researched the India Energy Stack (IES) documentation and the Beckn/ONIX BAP-BPP request-response flow
 - Tested IES sandbox calls in Postman, parsing request and response payloads to verify each step
- Project Intern** | *IIT Kanpur* May 2025 – Jan 2026
- Cut bulk catalog API latency to **<50ms** by rewriting query plans, adding Redis caching and fixing index coverage
 - Made orders concurrency-safe via **row-level locking** and **idempotency keys**, stopping duplicates and overselling

PROJECTS

- ZoneWise** | *Python, FastAPI, React, ChromaDB, GeoPandas, Claude API*  Oct. 2026 – Present
- Built a **RAG**-based map assistant that answers planning questions about any spot in Delhi from the Master Plan 2047 and court orders, citing the exact clause and page behind every answer
 - Made retrieval location-aware: each point is matched to planning zones (metro belts, UER-II corridor, Yamuna floodplain) before a BM25 + embedding **hybrid search**, and it declines when no clause supports an answer
- Chess Engine** | *Python*  Feb. 2026 – Mar. 2026
- Cut search time 93%** over 13 benchmark positions and gained 2 plies of depth at one second per move, by adding move ordering, an incrementally hashed transposition table, quiescence search with static exchange evaluation, and principal variation search

CERTIFICATIONS

Accelerating End-to-End Data Science Workflows | *NVIDIA DLI* | *cuDF, cuML, Apache Arrow ↗* Dec. 2025

EDUCATION

Thapar Institute of Engineering and Technology Aug. 2023 – May 2027
Bachelor of Technology in Computer Engineering CGPA: 8.3/10 *Patiala, Punjab*
Methodist High School Aug. 2009 – May 2023
ISC – 93.5% ICSE – 93.6% *Kanpur, Uttar Pradesh*