

APOORV PAL

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EDUCATION

Delhi Technological University (DTU)

B.Tech in Software Engineering | CGPA: 8.655/10.0

Aug. 2024 – Present

New Delhi, India

- **Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Database Management Systems, Machine Learning.

BS International School Dalip Vihar

Class XII (CBSE) | Percentage: 91.4%

2024

New Delhi, India

DPS Paradip Refinery

Class X (CBSE) | Percentage: 97.2%

2022

Paradip, Odisha, India

TECHNICAL SKILLS

Languages: C++, Python, JavaScript, TypeScript, SQL, HTML/CSS

Frameworks: React.js, Node.js, FastAPI, REST APIs, Streamlit, Cytoscape.js

Databases & AI: PostgreSQL, Neo4j, Qdrant, Gemini API, LangChain, Scikit-learn, Pandas, NumPy

Tools & Platforms: Git, GitHub, Docker, VS Code, Supabase

PROJECTS

ConceptGraph (Academic GraphRAG Platform) | React, FastAPI, PostgreSQL, Qdrant, Neo4j

June 2026

- Built a course-aware GraphRAG pipeline that extracts page-level PDF text, creates overlapping chunks, generates SentenceTransformer embeddings, and stores searchable vectors in Qdrant.
- Combined Neo4j prerequisite relationships with vector retrieval through query expansion and cross-encoder reranking, returning grounded answers with page-level citations.
- Developed FastAPI APIs for uploads, status tracking, retries, course resolution, PDF preview, grounded queries, and practice-exam generation.
- Improved reliability using canonical course UUIDs, SHA-256 duplicate detection, explicit processing stages, READY-state gating, compensating cleanup, and a 10 MiB upload limit.
- Built a React and Cytoscape.js dashboard and reduced the initial frontend bundle from approximately 927 KB to 150 KB using lazy-loaded routes and graph components.

SERENITY-AI | React, TypeScript, Supabase, Gemini API | [Live Demo](#)

October 2025

- Architected a full-stack mental wellness platform using React 18, TypeScript, Vite, and Supabase PostgreSQL across chat, mood tracking, journaling, community posts, and voting.
- Reduced initial bundle size through route-level code splitting, lazy-loading six major feature pages with React.lazy() and Suspense.
- Integrated Gemini 2.0 Flash for context-aware conversational AI, limiting context to the last six messages and supporting bidirectional voice interaction through the Web Speech API.
- Built a community forum with Google OAuth, moderation tooling, and a three-tier fallback chain for resilient external content delivery.

ACHIEVEMENTS

- **JEE Main 2024:** Achieved **98.67 percentile**, ranking among the **top 1.33% of approximately 1.4 million candidates**.
- **Competitive Programming:** Achieved peak ratings of **1625** on LeetCode, **1148** on Codeforces, and **1452** on CodeStudio; solved **500+ algorithmic problems** across **270+ active coding days**, maintained a maximum streak of **71 days**, and participated in **35+ global contests**.
- **Global Rank 7:** Placed seventh in the HackOrbit 2025 National Hackathon, finishing in the **top 5% among 150+ teams**.
- **Open-Source Contributions:** Selected as a contributor for the official **Enginow Open Source Program** in July 2026 and recognized as an **Iron Developer** in **ELUSOC: Summer of Code 2026**, earning **315 contribution points**.
- **Certification:** Completed *Supervised Machine Learning: Regression and Classification* by DeepLearning.AI on Coursera – April 2026.

EXTRACURRICULAR & CLUBS

- **IGTS Member:** Participated during the first and second years in quizzes, game-theory discussions, case-study analysis, and case formation, strengthening structured reasoning and presentation skills.
- **EHAX Member:** Participated in **15+ Capture the Flag competitions** during the first year and solved **70+ PicoCTF challenges** across cryptography, digital forensics, and web exploitation.
- **Community Volunteering:** Completed a **12-day outreach program** and a **40-hour teaching internship**, mentoring underprivileged students, conducting AI-literacy and career-awareness sessions, digitizing records, and supporting civic-engagement activities.