

ASHWIN KHANDELWAL

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DTU RollNo.-2K23/CS/093

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EDUCATION

B.Tech (Computer Science & Engineering) — Delhi Technological University, New Delhi	2023–2027
CGPA: 8.40	
AISSCE/CBSE (Class XII) — Delhi Police Public School	2023
Aggregate: 91.2%	
AISCE/CBSE (Class X) — Delhi Police Public School	2021
Aggregate: 95.8%	

ACADEMIC PROJECTS

Codeverse React/Socket.IO/Node.js — **Live Link** August '25

- Built a collaborative code editor with support for **C++, Java, Python, and JavaScript**, enabling live multiuser coding sessions.
- Engineered scalable WebSocket architecture handling **990+** concurrent users and **45,000+** live code edits per minute, with instant synchronization and typing indicators.
- Integrated remote code execution via **Piston API**, supporting **200+** code runs per session with **99%** uptime for a reliable multi-user coding experience.

Academic Info Management System MERN Stack — **GitHub** June '25

- Developed a full-stack system for course registration and mentorship, handling **50+** records across **5+** courses.
- Implemented RBAC with JWT authentication, blocking **90%** of unauthorized access attempts.
- Optimized MongoDB schema and added indexes, cutting query latency by **62%** (**120ms** → **45ms**) and improving dashboard responsiveness for **50+** student records.
- Integrated React+Redux frontend achieving **95%** test pass rate.

N-Body Simulation using Fast Multipole Method C++/OpenGL — **GitHub** December '24

- Reduced simulation complexity from $O(n^2)$ → $O(n \log n)$, achieving **70%** faster runtime on **10k+** particles.
- Designed quadtree-based partitioning, boosting throughput by 2x.
- Visualized interactions in OpenGL at **50+ FPS** with pan, zoom, and playback support.

TECHNICAL SKILLS

Programming: C++, Python, JavaScript

Web: ReactJS, NodeJS, ExpressJS, NextJS

DataBase: MySQL, PostgreSQL, MongoDB

Tools: Git, GitHub, OpenGL, WebSocket, Canva

RELEVANT COURSEWORK

Data Structures & Algorithms, Machine Learning, Database Management Systems, Operating Systems, Computer Networks, Object-Oriented Programming

ACHIEVEMENTS & ACTIVITIES

- Solved 500+ problems across Codeforces/LeetCode; best rank: Top 15%.
- Certifications: Graphs Camp (AlgoUniversity), AWS APAC Solutions Architecture (Forage).