ASHWIN KHANDELWAL

+91 8595993411, ashwin.khandelwal47@gmail.com
DTU RollNo.-2K23/CS/093
GitHub: AshwinKhandelwal47, LinkedIn

EDUCATION

B.Tech (Computer 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

Academic Info Management System   MERN Stack — GitHub

- 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.

Codeverse   React/Socket.IO/Node.js — Live Link

- 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.

N-Body Simulation using Fast Multipole Method   C++/OpenGL — GitHub

- Reduced simulation complexity from $O(n^2) \rightarrow O(n \log n)$ and eventually $O(n)$, 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
Coursework: Data Structures & Algorithms, Machine Learning, Database Management Systems, Operating Systems, Computer Networks, Object-Oriented Programming
Tools: Git, GitHub, OpenGL, WebSocket, Canva

RELEVANT COURSEWORK

Data Structures and Algorithms, Operating Systems, Database Management Systems, Computer Networks

ACHIEVEMENTS & ACTIVITIES

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