

ADITYA SINGH KSHATRI

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EDUCATION

Madan Mohan Malaviya University of Technology, Gorakhpur, UP
B.Tech, Information Technology

2024 – 2028
CGPA: 7.48

LEADERSHIP & ACTIVITIES

Coders and Developers Club, MMMUT Gorakhpur
Development Lead (promoted from Executive Member)

April 2025 – Present

- Organized and hosted multiple Competitive Programming and Web Design events, workshops, and club initiatives, bringing together 500+ participants and expanding outreach across 15+ colleges.
- Led backend development of the official club website, designing REST APIs and structuring the database architecture for scalable event and user management.
- Worked with a team of 30+ members using Git-based workflows to ship production features and deploy the platform on the cloud.

PROJECTS

Redis in C

GitHub

C, Sockets, Epoll syscalls, Data Structures

- Engineered a lightweight thread-safe in-memory database supporting GET, SET, DEL, EXPIRE commands on clients with non-blocking sockets and epoll.
- Implemented custom data structures and request parsing logic, with concurrent client connection handling capacity reaching 1000+ connections.

CDC Website

Live

MongoDB, Express, Node.js, React, Cloudinary, Firebase

- Built and deployed the official Coders and Developers Club platform with a REST-based backend and dynamic client interface.
- Fortified application security by implementing secure role-based access control (RBAC) using JWTs and validated user payloads with schema validation with Zod.
- Optimized backend APIs and database queries for scalable request handling.

Neural Network in C

GitHub

C, Linear Algebra, Calculus

- Implemented a C feedforward neural network from scratch, including forward propagation, backpropagation, and gradient descent.
- Built matrix operations and gradient descent logic to understand the internals of low-level ML; trained the model on a custom data set, achieving 89% accuracy.

Kindred-Compass Platform

Live · GitHub

MongoDB, Express, React, Node.js

- Developed a full-stack application with authentication, dynamic content management, and RESTful backend services to provide wellness suggestions based on user activity records and manual inputs.
- Implemented rule-based recommendation logic on user activity data to generate personalized health suggestions.

TECHNICAL SKILLS

Languages	C, Go, Rust, Python, JavaScript, TypeScript
Frameworks	Node.js, Express, Django
Concepts	Operating Systems, Networking, Process & Memory, OOP, REST APIs
Tools & software	Git, Linux, AWS, Firebase, Cloudinary, PostgreSQL, MongoDB, Docker
Coursework	Data Structures & Algorithms, Operating Systems, Computer Networks, DBMS, Computer Organization & Architecture

INTERESTS

Open-source Software, Competitive Programming, Linux, Operating Systems