

Aman Mishra

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Education

KIET Group of Institutions, AKTU

Bachelor of Technology, Computer Science and Information Technology (CSIT)

November 2022 – Present

GPA: 7.93

- Recipient of 50% scholarship on tuition fee for academic excellence

St Thomas School, CBSE

Secondary & Senior Secondary Education

March 2020 – March 2021

89.8% (Class X), 80.8% (Class XII)

Experience

Student Mentor – DBMS & Operating Systems

Department of Computer Science, KIET Group of Institutions

Oct 2024 – Feb 2025

Multiple Sessions

- Invited by the department to conduct academic support sessions for 80+ students on DBMS and Operating Systems
- Delivered engaging, concept-driven sessions on SQL, ER modeling, normalization, process/thread scheduling, paging, and memory management
- Conducted sessions across weeks during odd and even semesters; received positive feedback from students and faculty for clear explanations and effective delivery
- Contributed practice problems and revision materials to help students prepare for semester exams

Projects

3D Graphics DirectX Programming *C++, DirectX, HLSL*

December 2024 – Present

- Created mesh and rendering mechanism for 3D graphics using DirectX
- Implemented first-person view, Gaussian filter, and screen mapping techniques

QOI Decoder *C++, OpenMP, STL*

July 2024

- Created QOI decoder which has 20x compression rate and 5x decompression rate than JPEG format
- Achieved 30% performance efficiency using multi-threading by writing into buffer simultaneously

Gossip Network Implementation *C++, Networking Libraries, Multithreading*

September 2024 – October 2024

- Implemented a gossip protocol for distributed systems communication
- Developed network topology and message propagation algorithms
- Created fault-tolerant message delivery system with 99% reliability

Redis Database From Scratch *C, Network Programming, Data Structures*

November 2023 – February 2024

- Built a Redis-like in-memory key-value database with support for basic data structures
- Implemented persistence with AOF and RDB mechanisms achieving 95% compatibility with Redis commands
- Optimized for 10K+ operations per second with low memory footprint

Technical Skills

Languages: C, C++, Python, Java

Tools: Git, GitHub, CLI, CLion, Valgrind, Ubuntu, Vim, OpenMP, MySQL, Wireshark

Academic Coursework

Operating Systems, Computer Architecture, Database Management Systems, Object-Oriented Programming, Design Patterns, Data Structures & Algorithms, Computer Networking, Network Security, Distributed Systems, Software Engineering, Discrete Mathematics

Extracurricular Activities

- Active participant in coding competitions and hackathons organized by college and external organizations
- Member of Computer Science Society, contributing to technical workshops and peer learning sessions
- Volunteer in college technical fest, assisting in event organization and student coordination
- Regular contributor to technical discussions and study groups within the department
- Participated in inter-college programming contests and collaborative coding challenges