Aditya Roy Chowdhury

LinkedIn: Aditya Roy Chowdhury

Email: adityaroy2.ar.ar@gmail.com
Mobile: +91 8920803242

Experience

- **Biz2x Platform Pvt Ltd**

  Software Engineer Mar 2026 – Present

  - Designed and **developed an AI voice agent, telephony APIs** and internal backend services to automate customer interactions across lending lifecycle.
  - Implemented an **end-to-end Angular + Python/NodeJS based event-driven** credit calculator that analyses credit history, bank statements, and generates reports using Bedrock based internal models and RAG pipelines

  Associate Software Engineer Aug 2024 – Mar 2026

  - **Built** a round-robin resource allocator, removing manual routing for legal and underwriting teams, reducing manual effort by **more than 50%**
  - Optimized SQL queries and APIs, eliminating bottlenecks to deliver **50% faster load times** systemwide
  - **Automated investment calculation and allocation** via an in-house alogrithm, **using SQS and SNS** for event-driven processing, **eliminating manual effort**

Projects

- **Limit Order Book (C++, Cmake)**: GitHub
  - Built a C++ low-latency **Limit Order Book and Matching Engine** supporting market, limit, stop, and stop-limit orders with **FIFO price-time priority**.
  - Designed an **AVL-tree + doubly linked list + hash-map architecture** for efficient price-level management and direct order lookup, enabling O(1) cancellation, modification, execution, and best bid/ask retrieval.
  - Worked with AVL trees for **ordered price-level management**, linked lists for **maintaining orders at each price**, and hash maps for efficient order lookup.
  - Implemented/understood **handling of limit, market, stop, and stop-limit orders**, including order addition, cancellation, modification, and execution.
- **Mini-Redis: Distributed In-Memory Key-Value Store (C++, Cmake)**: GitHub
  - Built a Redis-compatible in-memory KV store in C++17, implementing the **Redis Serialization Protocol** over raw TCP sockets with **epoll-based non-blocking I/O**, supporting concurrent clients on a single thread.
  - Implemented core Redis-style commands like **GET/SET/DEL/EXPIRE/INCR** with efficient in-memory data structures and request parsing.
  - Designed a pluggable **LRU eviction policy** using the Strategy pattern, achieving **O(1)** key access and eviction via a hashmap + doubly linked list architecture.
- **Rubicks cube solver (C++, Cmake)**: GitHub
  - Modelled a 3x3 Rubiks cube in 3 different models/classes using standard Data Structures Present in C++
  - Achieved a solving time of under 3 seconds for a Rubicks cube jumbled 8 times, using **BFS, DFS and IDDFS** algorithms.
  - Engineered a novel hashing algorithm, cataloging **95%** of solvable Rubicks Cube patterns, resulting in a **60%** reduction in steps needed to solve any cube jumbled up to 8 rotations.
  - Implemented **Korf's IDA* Algorithm**, achieving a solving time of under 10 seconds for a cube jumbled 13 times.

Achievements

- Solved **2000+** questions on Data Structures and Algorithms across multiple platforms :- **LeetCode, Codeforces, Atcoder CodeChef**
- Attained **Guardian** title on LeetCode (top 1%) and **3*** on Codechef, qualified **Meta HackerCup Round 2**
- Reached **Specialist** level on Codeforces with peak rating of 1500, **Cyan** on Atcoder

Skills Summary

- **Languages**: C++, Python, Java, JavaScript
- **Frameworks**: Node.js, Express.js, Angular, FastAPI, SpringBoot(J2EE), Agile Methodologies
- **Tools**: Git, Postman, Cursor, Jira, Docker, MCP, MySQL, MongoDB, Redis
- **Platforms**: AWS (Lambda, S3, CloudWatch, Serverless), Ubuntu Linux

Education

- **Jaypee Institute Of Information Technology** Noida, Uttar Pradesh
  Bachelor of Technology - Electronics and Communication Engineering *2020-2024*