# MD AKRAM

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#### **EDUCATION**

## - KPR Institute of Engineering and Technology

Jul 2022 – Present

B.E. in Civil Engineering (CGPA: 8.7/10.0)

Coimbatore, Tamil Nadu

- Relevant CS Coursework: Data Structures & Algorithms, OOP, DBMS, Computer Networks, OS
- Completed **Responsive Web Design Certification** (freeCodeCamp, 300+ hours) [LINK].

## TECHNICAL SKILLS

- Frontend: ReactJS, Next.js, JavaScript (ES6+), HTML5, CSS3, Tailwind CSS, MUI
- Backend: Node.js, Express.js, REST APIs
- Databases: MongoDB, Redis, SQL
- Languages: JavaScript, C++, Java, Python
- Tools & Platforms: Git, GitHub, Visual Studio Code, Postman

#### **EXPERIENCE**

## - Innomatics Research Labs

Jan 2025 - Mar 2025

Full Stack Developer Intern

Hyderabad, Telangana

- Developed SwasthScript, a MERN-stack healthcare platform with JWT auth, role-based access, and a responsive React dashboard for 10,000+ users.
- Boosted API performance by 60% using Redis caching and optimized queries (210ms  $\rightarrow$  80ms).
- Integrated **Stripe & Razorpay** with secure webhook handling for fraud-free payments.

# - Kathmandu Metropolitan City Office

Jan 2024 – Feb 2024

e-Governance Tech Intern

Kathmandu, Nepal

- Implemented **AES-256 encryption** and input sanitization to secure **50,000+ citizen records**.
- Built REST APIs integrated with AutoCAD, reducing building permit approval time by 50%.
- Designed a simple **staff-facing portal**, improving accessibility and reducing training needs.

# **PROJECTS**

- Collaborative Real-Time Code Editor | React, Node.js, Express.js, Socket.io, MongoDB | LINK
  - Built a low-latency real-time code editor with a **React-based UI**, including syntax highlighting, live cursors, and responsive layout for seamless collaboration.
  - Implemented real-time synchronization with **Socket.io**, achieving sub-**100ms latency** for 50+ concurrent users.
  - Enhanced usability with debounced state updates and optimized network requests, reducing bandwidth usage by 30%.
- AI Agent Chatbot | JavaScript, React, Express.js, Gemini API, Server-Sent Events
  - Developed a responsive chat interface in React with real-time streaming responses, ensuring smooth user experience across
    devices.
  - Integrated Gemini API via Express is backend with function-calling for dynamic tool execution.
  - Implemented secure API authentication and error handling, improving production reliability.
- High-Performance Huffman Compressor | C++, WebAssembly, JavaScript, HTML, CSS | LINK
  - Designed an intuitive **browser-based UI** with drag-and-drop file upload and real-time progress feedback for text compression.
  - Implemented a lossless Huffman compression algorithm in C++, achieving up to 69% file size reduction.
  - Used **Emscripten** to compile C++ into WebAssembly for high-speed, client-side compression directly in the browser.

#### **ACHIEVEMENTS & LEADERSHIP**

- Ranked 1st on GeeksforGeeks (Institution) with a 1266 coding score and 300+ problems solved (LINK).
- Solved over **250+ problems** on **LeetCode** focusing on algorithms and data structures.
- 4\* at HackerRank(LINK).
- Achieved **Top 10** ranking in the **GDG on Campus Coding Competition** among 500+ participants.
- Completed GfG 160-Day Problem Solving Challenge with Summer Workshops (LINK).
- Won the Best Project Award at the INNOVSENSE'24 Hackathon for developing a carbon footprint analyzer system.