MAYANK KUMAR SHARMA

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Summary

Full-stack developer with strong foundations in Data Structures, Web Architecture, and Client-Server Systems. Experience building web and mobile applications using React, Next.js, Node.js, and REST APIs. Focused on maintainable code, performance analysis, debugging, and shipping production-ready features.

Skills

Frontend: React.js, Next.js, HTML5, CSS3, Tailwind CSS
Backend: Node.js, Express.js, REST APIs, MongoDB, Firebase, JWT
Programming: JavaScript, TypeScript, Python, C, Java, SQL
Tools: Git, GitHub, CI/CD, Vercel, Render, Agile, Figma

Projects

Jet Engine Remaining Useful Life (RUL) Predictor   2023
Tech: Next.js, FastAPI, Python, NASA FD001

- Built an end-to-end RUL prediction pipeline with a FastAPI inference service and a Next.js (SSR) interface for analysis and visualization.
- Processed multivariate time-series sensor data from the NASA FD001 dataset using preprocessing, feature engineering, and structured model evaluation.

Monastery360+ — Sikkim Tourism (Smart India Hackathon)   2024
Tech: Next.js, Three.js, Tailwind CSS

- Developed an interactive 3D web application using Three.js with efficient scene management and responsive user interaction.
- Reduced runtime overhead by 25% using asset compression, lazy loading, and build optimization.

Mobile Mood Tracker App   2024
Tech: React Native, Expo, Node.js

- Created a modular mobile UI with tab-based navigation, improving user flow efficiency by 20%.
- Integrated REST APIs and real-time sync to support consistent cross-device state updates.

2D Puzzle Treasure Hunt Game   2024
Tech: TypeScript, Next.js

- Implemented level-based game logic and deterministic state management in TypeScript using event-driven patterns and graph traversal concepts.

Technical Highlights

- Applied data structures and algorithms in C and Java to improve time and space complexity in core modules.
- Resolved deployment and environment configuration issues on Vercel and Render through systematic debugging.

Education

University of Engineering & Management (UEM), Kolkata, India   2024 – 2028
B.Tech in Computer Science Engineering (AI & ML)

- Relevant Coursework: Data Structures and Algorithms, Operating Systems, Machine Learning, Web Architecture
- Academic Records: ICSE (10th) 89%, CBSE (12th) 73%