Rohan Sony
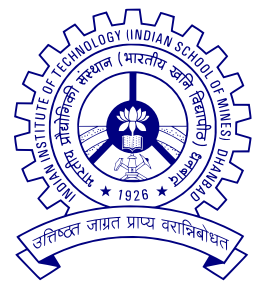
22je0818@iitism.ac.in
Portfolio | Github | LinkedIn | CodeForces

Education

Indian Institute of Technology (Indian School of Mines), Dhanbad   2022-27
Int. M.Tech., Mathematics and Computing (CGPA: 7.20 / 10)   Dhanbad, Jharkhand
Relevant Coursework: C/C++, Java, Object-oriented Programming, Data Structures and Algorithms, Statistics,
Discrete Mathematics, Operating Systems, Databases, Theory of Computation, Cryptography, Networks

Oxford Senior Secondary School   2020-22
XII (93.2 percent)   Muzzafarpur, Bihar

Skills

Programming Languages: C/C++, Java, Python, JavaScript (ES6+), TypeScript
Frontend Stack: React 19, React Native, HTML5 Canvas, CSS3, Tailwind CSS, Responsive Design
Backend Stack: Node.js, Express.js, RESTful APIs, JWT Authentication, Data Validation
Database Technologies: TypeORM, SQLite, MongoDB, Database Design, Data Modeling
Mobile Development: Expo Framework, Cross-platform Development, Native APIs Integration, Location Services
AI & ML: Neural Networks, Genetic Algorithms, Computer Vision, Game Physics, Algorithm Design
DevOps: Vercel, Docker, CI/CD Pipelines, Environment Management, Performance Optimization
Development Tools: VS Code, IntelliJ IDEA, Terminal, Git & Version Control, Android Studio

Projects

Short URL Service | GitHub | Live Demo
Tech Stack: React 19, TypeScript, Node.js, Express, TypeORM, SQLite, Tailwind CSS, React Query, Zod validation, Vercel
- Built a production-ready URL shortening service with real-time analytics dashboard and user authentication
- Implemented JWT-based authentication system with password hashing and protected API routes
- Developed comprehensive click tracking and URL management with custom alias support

Self-Driving Car AI Simulation | GitHub | Live Demo
Tech Stack: JavaScript (ES6+), HTML5 Canvas, CSS3, Neural Networks, Genetic Algorithms, Computer Vision, Game Physics, Object-Oriented Programming, Vercel
- Created an interactive simulation where 100 AI cars learn to drive using neural networks and genetic algorithms
- Implemented ray-based sensor system for obstacle detection and real-time neural network visualization
- Designed evolutionary learning system with mutation-based improvement and brain persistence

Weather App (React Native) | GitHub | Live Demo
Tech Stack: React Native, Expo, TypeScript, React Query, React Native Paper, AsyncStorage, Expo Location, OpenWeatherMap API, Tailwind CSS, Vercel
- Developed cross-platform weather application with GPS location detection and multiple location management
- Integrated real-time weather data API with comprehensive metrics including UV index, humidity, and wind data
- Implemented time-based dynamic themes, offline storage, and responsive design for iOS, Android, and Web

Achievements

- Recipient of the prestigious *ISMAANA* scholarship sponsored by the Narendra Vashisht Foundation.
- Secured AIR 5176 (99.99 percentile) in *JEE MAINS* 2022.
- Secured AIR 6550 (99.99 percentile) in *JEE ADVANCED* 2022.
- Global Rank 297 in Starter 135 Codechef.
- Global Rank 1458 rank in Codeforces Round 166.
- 1600+ rating on Codechef, 1400+ rating on Codeforces.
- Solved 500+ problems on coding platforms viz. LeetCode, GFG, CodeForces, CodeChef

Social Engagements

- *Core Member*: Black Knight Chess Club, IIT (ISM) Dhanbad
- *Volunteer*: at KARTAVYA - NGO run by students of IIT Dhanbad to educate underprivileged children
- *Sports-Engagements*: Badminton, Chess, Cricket , Table-tennis, *National Sports Organisation* (NSO) participant in YOGA