Saptarshi Sen

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Education

Indian Institute of Technology (Indian School of Mines) Dhanbad   Expected May 2026
Bachelor of Technology in Mineral and Metallurgical Engineering (GPA: 8.61 / 10.00)   *Dhanbad, Jharkhand*
- **Relevant Coursework:** Programming with C, Data Structures and Algorithms (C++)

Projects

Chat Application | *Node.js, Express.js Socket.io, HTML, CSS, JS*   (github) (deployment)
- Engineered a real-time chat application using WebSocket, achieving a 50% reduction in message delivery time and supporting up to 1000 concurrent users.
- Developed a privacy-centric solution with no user data storage, ensuring complete anonymity and compliance with data privacy standards.
- Optimized build and deployment processes, resulting in a 30% decrease in build time and faster releases

Payment App | *Node.js, Express.js, React, Tailwind CSS, MongoDB*   (github) (deployment)
- Developed a full-stack payment platform enabling secure user authentication (JWT) and profile management (create, update, delete) with a seamless transaction capability for sending money between users.
- Implemented robust error handling, reducing transaction errors by 40% and enhancing overall application reliability.
- Built with a modular design using React and Tailwind CSS, improving user interface performance by 25% and ensuring scalability for future features.

Blog Website | *Node.js, Express.js, EJS, SQLite, HTML, CSS, JS*   (github)
- Developed a dynamic blog platform enabling users to create, view, and delete blog posts with a clean, intuitive design
- Integrated live content previews and persistent storage with SQLite.
- Optimized server-side rendering using EJS, resulting in a 30% faster load time for content-rich pages.

UI Library | *Node.js, Express.js, React JS, MongoDB*   (github)
- Developed a MERN stack-based UI Library Web App with secure user authentication (sign-up, log-in) and a platform for users to create and share custom UI components.
- Designed a dynamic home page to showcase user-created elements, improving content discover-ability by 40%.
- Implemented a modular component architecture, facilitating easy customization and reducing development time by 30% for new UI components.

Technical Skills

Languages: C++, Python, Javascript, Typescript, Scala
Front End: React.js, JQuery, EJS, Tailwind CSS, Shadcn, Next.js
Back End: Node.js, Express.js, Cloudflare Workers, Flask, Typescript, Cloudflare Workers, Hono.js
Database: MongoDB, Postgresql, Prisma ORM
Tools & Platforms: Git, Bash, Docker, AWS, Turborepo, Vite
Concepts: Data Structures and Algorithm, Operating System, Encryption, Decryption, API Development, Monorepo, Serverless Architecture, Websocket

Achievements

- Pupil in Codeforces — Max Rating: 1365
- 2 Star in Codechef — Max Rating: 1590 (Global Rank: 918)
- Hackfest'24 finalist. Project: TransLingoGPT (github)

Social Engagements

Volunteer: at KARTAVYA - NGO run by students of IIT Dhanbad to educate underprivileged children.
Member: at BFX-PrISM - Student run society at IIT Dhanbad to teach tech skills to school students.
Sports-Engagements: Badminton, cricket.