Subhajit Pramanik

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EDUCATION

Netaji Subhash Engineering College

Bachelor of Technology - Electronics and Communication Engineering (7.85)

Kolkata, India July 2021 - June 2024

Jogesh Chandra Chaudhuri College

Bachelor of Science (62%)

Kolkata, India June 2021

SKILLS SUMMARY

• Languages: JavaScript, Python, JAVA, SQL

• Libraries: React JS, Express JS, Mongoose, Socket.Io

• Frameworks: Next JS, Node JS, Prisma ORM, Django, Tailwind CSS

• Tools: GIT, PostgreSQL, Mongodb, MySQL

• Soft Skills: Leadership, Team Management, Time Management

PROJECTS

• VideoApp - Video Streaming Platform (Full-Stack Development, User Authentication, CRUD Functionality): Engineered a video streaming service with Next JS for both frontend and backend, featuring:

- Full-Stack Development: Leveraged Next.js to create an integrated and performant frontend and backend.
- User Authentication: Deployed JWT and refresh tokens to secure the authentication process.
- o Video Management: Managed the uploading, publication, and CRUD functionalities for videos.
- Subscription System: Developed features such as likes, dislikes, comments, tweets, and playlists as part of the subscription model.
- Dashboard and Analytics: Implemented a dashboard for monitoring channel status and analytics with MongoDB Aggregation Pipelines for complex data analysis.
- o Tech: JavaScript, Next.js, NextAuth, Tailwind CSS, MongoDB, JWT Authentication, Cloudinary.
- StoryArcs Blogging Website (Frontend Development, State Management, Secure Authentication): A scalable and responsive blogging platform featuring:
 - Frontend Development: Utilises React.js and Redux for dynamic interfaces and efficient state management.
 - Secure Authentication: Implemented through Appwrite for robust user authentication and data management.
 - o Responsive Design: Ensures accessibility across various devices.
 - o Deployment: Managed via Vercel to guarantee scalability and reliability.
 - o Tech: JavaScript, React, React-Redux, Redux Toolkit, React Router DOM, Appwrite, Vercel, React Form.
- Image Steganography for Secure Healthcare Records: Developed an advanced image steganography technique to protect sensitive patient medical records in e-healthcare services. Key contributions include:
 - Image Region Decomposition (IRD): Introduced the IRD method to embed additional confidential data while ensuring improved imperceptibility.
 - Quality Metrics: The technique was evaluated using four categories of MRI images, demonstrating high imperceptibility and maintaining the original image quality.
 - Performance: Produced MRI steganographic images that are indistinguishable from the original cover images, achieving an average PSNR of 55.65, significantly better than existing methods.
 - o Tech: Python, OpenCV, Steganography, Cryptography.

Extracurricular Activities

- Smart India Hackathon 2023 Automated Public Lighting: Our team won the Smart India Hackathon 2023 by addressing the problem statement of "Automated Public Lighting." My contributions included:
 - Software and IoT Development: Developed the software and IoT components for the project.
 - Energy Efficiency: Achieved a 25% energy saving through optimized lighting control.
 - Monitoring and Services: Created a comprehensive monitoring service using AWS IoT and DynamoDB for real-time data management and analytics.
 - o Tech: Python, DJango, AWS IoT, DynamoDB, IoT Sensors

Hobbies