Vansh Tyagi

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EDUCATION

2023 - present	B.Tech(IT) at **JSS Academy of Technical Education**	8.18/10Ygpa
2022	Class 12th Up Board	76.4 %
2020	Class 10th Up Board	84.8 %

PROJECTS

Kawach: A Secure Document Sharing Platform — *React.js, Express.js, MongoDB*   December 2024

- Developed Kawach, a **secure document-sharing platform** using **MERN stack** with **strong encryption** to protect sensitive information.
- Created a **one-time QR code system** with **60-second access window** that automatically expires after document printing, preventing unauthorized access.
- Engineered **automatic document deletion** from both cloud storage and database after use, ensuring no data remains accessible.
- Designed a user-friendly solution supporting **5+ document formats** while reducing misuse risk by 100% compared to traditional methods.

SOEN: Collaborative IDE with Real-Time Chat & AI — *MERN, Socket.IO, WebContainer API*   April 2025

- **Formulated** a full-stack collaborative IDE enabling **real-time multi-user code editing** and **in-browser execution** with 100% synchronization.
- Integrated **Google's Gemini AI** for intelligent pair programming assistance, implementing features like contextual code suggestions and @ai mentions.
- **Orchestrated** comprehensive real-time collaboration features including live file tree synchronization and **team chat**, reducing workflow friction by 40%.
- Developed secure **JWT authentication** system and implemented scalable backend architecture using **Socket.IO** and **Redis** for seamless concurrent sessions.

FlashLearn: AI-Powered Smart Quiz Generator — *React.js, Express.js, EJS, MongoDB*   August 2024

- Built a full-stack learning platform that **auto-generates quizzes from YouTube videos and PDFs** using **NLP-based transcript and text analysis**.
- Integrated **PDF parsing and video transcript extraction** to dynamically generate topic-specific MCQs for faster revision.
- Implemented **JWT-based authentication with role-based access control** to separate student/admin functionality securely.
- Designed a real-time **leaderboard system** to foster competitive learning and increase user engagement.

SKILLS

Languages:	C++, C, JavaScript, python ,TypeScript, HTML, CSS
Frameworks/Libraries:	React.js, Redux Toolkit, GSAP, Bootstrap, Tailwind CSS, Socket.io
Backend Tools:	Node.js, Express.js, MongoDB, MySQL, RESTful APIs, Redis, WebContainer
Development Tools:	Git/GitHub, Postman, Cloudinary, Vercel, Render, Firebase
Algorithmic Problem-Solving:	Data Structures and Algorithms, OOPS, Competitive Programming

ACHIEVEMENTS

- **Conquered 3rd place** at the **CONVERGEX Hackathon** hosted by JSS University, Noida, as part of Team BGT, by engineering a novel solution in my project Kawach.
- **Leetcode**: Max Rating of **1566**.
- **Runner-up** at the **Code Showdown DSA Contest** at Vidhya Bharti College, competing among top performers.
- Participated in **8+ Hackathons**, contributing to collaborative development, rapid prototyping and innovative solutions.
- Solved **400+ DSA problems**, enhancing DSA proficiency, algorithmic thinking, and coding efficiency.