

Dinesh Kumar Rana

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TECHNICAL SKILLS

Java, JavaScript, React.js, Vue.js, Typescript, Node.js, Express.js, WebSockets, API Development, SQL, MongoDB, MySQL

PROJECTS

ChatConnect (Real-Time Chat Application)

- Developed a real-time chat application using the MERN stack with Socket.IO for instant message delivery.
- Implemented private and group messaging with real-time updates and online user tracking.
- Integrated secure user authentication to ensure authorized access and data privacy.
- Designed a responsive and intuitive UI using React and Tailwind CSS.
- Optimized backend performance with Node.js, Express.js, and MongoDB for efficient data handling.

AES Encryption Algorithm Implementation

- Implemented the AES-128 symmetric encryption algorithm in C to securely encrypt and decrypt files.
- Developed modular code for key generation, byte substitution, permutation, and round transformations.
- Tested encryption/decryption across multiple file types ensuring correctness and data integrity.
- Measured execution time at 1368 microseconds per operation, demonstrating efficient performance.
- Documented the complete methodology explaining each AES step and its role in secure communication.

Playlist Converter (Spotify to YouTube)

- Built a web application to convert public Spotify playlists into corresponding YouTube video links.
- Integrated Spotify Web API to fetch playlist metadata and track details in real time.
- Implemented YouTube Data API-based search to map each track to the most relevant YouTube video.
- Added real-time progress tracking, success rate visualization, and retry handling for failed matches.
- Enabled export of results in TXT, CSV, and JSON formats with a responsive UI using HTML, CSS, and JavaScript.

ACHIEVEMENTS

- Core member of the Design Team at the Cyber Warrior Club, contributing to UI/UX design, posters, and technical event branding.
- Achieved a LeetCode Contest Rating of 1665, ranking in the top 20% globally.
- Participated in 25+ LeetCode contests, consistently improving ranking and problem-solving efficiency.
- Secured a top 50 rank out of 1,000 participants in an intra-college coding challenge.

EDUCATION

VIT Bhopal University

Bachelor of Technology in Computer Science and Engineering

Bhopal, MP

Nov 2022 – Present

GGPS (CBSE)

Senior Secondary (12th)

Bokaro, Jharkhand

April 2020 - July 2021

St. Clare's (ICSE)

High School (10th)

Koderma, Jharkhand

April 2018 - April 2019