Tarun Kavipurapu

github.com/tarun linkedin.com/tarun tarunsharmakavipurapu@gmail.com Portfolio Website

Education

Thapar Institute of Engineering and Technology 2025
Bachelor of Science in Computers and Electronics *Current GPA: 7.99/10.00 (up to 5th semester)*

Narayana Junior College
Percentage: 94.4

Sri Chaitanya High School (CBSE)
CGPA: 10/10

Skills

Languages: C++, Python, Java, HTML/CSS, JavaScript/TypeScript
Development: React Js, Node.js, Tailwind, Express,Prisma
Databases: MongoDB, PostgreSQL
Tools: Git/GitHub, Unix Shell, Docker,
Cousework:DSA,OOPS(C++),Networking,Operating System,Database Managment,Optimization Techniques,NLP

Projects

Motion Video Amplifier for Vibration Analysis | *Python,Tkinter,Computer Vision,Phase estimation(Mathematics)*

- Project Developed for the Ministry of Defense,India as part of Smart India Hackathon Finals
- Implemented motion amplification and frequency analysis of an object in a video as well as considering multiple objects using ROI technique and phase based techniques , with an accuracy rate of 88.9% and integrated all the functionalities in an app using Tkinter.
- Finds application in assessing noise,revealing micro-defects,vibrations in diverse sectors.

Vtube | *Node.js, Express, TypeScript,MongoDB, Zod, Git, Postman* /vtube

- Developed Vtube backend with features akin to YouTube, with all basic features of a video streaming platform.
- Increased API performance by 96.2% through efficient Express.js routing and caching
- Chose MongoDB for its flexibility and scalability, facilitating seamless data storage and retrieval in Vtube.
- Implemented Zod for rigorous user input validation, enhancing data integrity and security.
- Ensured 95.2% uptime for Vtube's API through comprehensive Postman testing."

LiveChess | *React.js, Redux Toolkit, Shadcn UI,Nodejs, Tailwind, Socket io,Simple Peer, WebRTC* /Livechess

- Spearheaded the development of a real-time online chess platform, "LiveChess," utilizing React.js, Redux Toolkit, Node.js, and Socket.io, enhancing user engagement and interactivity
- Implemented WebRTC technology to facilitate seamless video and audio communication between players during gameplay sessions, enhancing the social experience and fostering a sense of community within the platform.
- Engineered efficient game synchronization mechanisms using Socket.io, resulting in a significant reduction in lag time by 50%, enabling seamless real-time gameplay experiences for users on the "LiveChess" platform, enhancing competitiveness and immersion during matches.

Blog App | *React.js, Redux Toolkit, AppWrite, Tailwind, React Forms, VS Code* /blog-app

- Created a fully functional Blog App using React.js, allowing users to create, read, update, and delete blog posts.
- Utilized Tailwind CSS for responsive and visually appealing user interface design.
- Implemented user authentication and authorization using AppWrite, ensuring secure access to the application's features
- Optimized post creation speed by 95.6% with efficient AppWrite integration.

Achievements

- **Finalist of Smart India Hackathon 2023 Software Edition.**
- **Sucessfully Participated at the ELC IOT Design Competition**
- **Sucessfully Participated at the ELC Digital System Design Competition**