# PANKAJ PATWAL

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#### **EDUCATION**

Bachelor of Technology (CSE), Graphic Era Hill University

8.21 CGPA, Expected 2026

#### **SKILLS**

Languages Java, C++, JavaScript, Python, HTML, SQL

Tech Stacks React.js, Express.js, Node.js, Git, MySQL, MongoDB, AWS, Redux, .NET, Bootstrap

Tools VSCode, GitHub, npm

Soft Skills Communication, Problem Solving, Troubleshooting, Team Collaboration, Time Management Data Structures, Algorithms, Operating Systems, Computer Networks, Artificial Intelligence,

Machine Learning

## **PROJECTS**

### Real-Time Chat Application

Link

Architected and deployed a scalable, high-performance chat platform leveraging the MERN stack and Socket.IO, guaranteeing seamless, real-time messaging with minimal latency.

Integrated secure user authentication with JWT, enhancing access control efficiency by 25% and fortifying multi-role permissions.

Devised and optimized RESTful APIs to streamline data exchange, cutting message sync times by 30% and improving delivery reliability.

Strengthened application scalability through proactive performance tuning, elevating responsiveness by 50% during peak loads while ensuring uninterrupted service.

Tech Stack: MongoDB, Express.js, React.js, Node.js, Socket.IO, JWT, Docker

# AI-Powered Fitness Assistant Web Application

Link

Engineered a dynamic AI-powered fitness assistant utilizing Next.js, React.js, Tailwind CSS, and Shaden UI, delivering hyper-personalized workout and diet plans with live consultations.

Integrated conversational AI through Vapi and Gemini LLM, achieving 95% voice recognition accuracy and significantly elevating user engagement.

Implemented robust, role-based authorization and authentication using Clerk, mitigating unauthorized access incidents by 30%.

Unified a serverless architecture with Convex Database for sub-second, real-time updates, ensuring zero downtime and scalable, production-ready deployment.

Achieved a perfect 100% Lighthouse Performance score via client-server optimization, responsive design, and proactive load management.

Tech Stack: Next.js, React.js, Tailwind CSS, Shaden UI, Vapi, Gemini AI, Clerk, Convex Database

#### **ACHIEVEMENTS**

- Solved over 600 problems on LeetCode, attaining a rating of 1757 and ranking in the top 9%, demonstrating advanced problem-solving and algorithmic proficiency.
- Ranked 63<sup>rd</sup> globally in CodeChef Starters 155, exemplifying competitive coding expertise and solution optimization under strict time constraints.
- Consistently recognized within the top 9% on LeetCode for persistent, high-quality problem-solving performance and mastery of data structures and algorithms.
- Spearheaded a team to the final round of Flipkart Grid 6.0, driving strategic problem-solving, fostering collaboration, and showcasing leadership under competitive pressure.

#### **CERTIFICATIONS**

- NPTEL-certified in **Google Cloud Computing**, mastering cloud infrastructure architecture, deployment models, service paradigms, and security protocols.
- Completed ISRO IIRS training on **AI** and **Machine Learning with Geo Data**, specializing in geospatial analytics, remote sensing integration, and AI-driven earth observation solutions.