Darshnik Rohal

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EDUCATION

BTech in Computer Science

MinorinArtificialintelligenceand Machine Learning · VIT Bhopal University · Bhopal, Madhya Pradesh · May 2026 ·
8.95/10

PROJECTS

CoDraw - Collaborative Real-Time Drawing Application
March 2025

- Designedand developed a full-stack, real-time collaborative whiteboard app using React, Node.js, Socket.IO, and MongoDB, enabling multiple users to draw simultaneously on a shared canvas.
- Implemented WebSocket-based synchronization logic to broadcast drawing actions across clients with <100ms latency, enhancing user experience with real-time collaboration.
- Engineered canvas tools (shapes, pen, text, undo/redo) and integrated session management for saving and restoring drawings, increasing user retention by 30% during testing phase.
- Optimized backend scalability with room-based architecture and Redis (optional), supporting up to 100 concurrent users per room without significant performance degradation.

Medley Pharma Application
November 2024

- Designed and developed a full-stack MERN application, Medley Pharma, enabling users to create and manage dynamic online forms with customizable fields, real-time previews, and secure data collection.
- Implemented drag-and-drop form builder using React and Redux Toolkit, improving user interaction and reducing form creation time by 60%.
- Integrated backend services with Express and MongoDB for data persistence, and added CAPTCHA & SSL encryption to enhance security and minimize spam submissions by 90%.
- Built a data analytics dashboard using charting libraries to visualize submission trends, and added export features (CSV/JSON), enhancing decision-making efficiency for end-users.

HeartDisease Prediction using Boruta Feature Selection Algorithm
February 2023

- Developed and deployed a machine learning model using Random Forest Classifier, achieving 98.6% accuracy on the test dataset.
- Implemented the Boruta feature selection algorithm, extracting 118 key features from a high-dimensional dataset to optimize model performance.
- Conducted a comparative analysis of multiple classification algorithms (e.g., SVM, KNN, Decision Tree), concluding Random Forest as the most effective based on precision, recall, and F1-score.
- Enhanced model robustness and interpretability by refining feature importance and fine-tuning hyperparameters, leading to improved prediction reliability.

SKILLS SUMMARY

ProgrammingLanguages: Python, C++, Java, JavaScript
Web Development: React.js, Node.js, Express.js, MongoDB.
Tools & Technologies: Git, GitHub, Jupyter Notebook, VS Code, Postman
Soft Skills: Problem Solving, Analytical Thinking, Team Collaboration, Communication
Database & Data Visualization: MySQL, MS Excel , Tableau

EXTRA CURRICULAR

Volunteer, PAHAL Initiative
December 2023 - August 2024
Directed academic sessions for 30+ underprivileged students across 5+ subjects through the PAHAL Initiative.

Event Manager, Advitya 2023
March 2023

- Led event planning and logistics for Advitya 2023, a major 3-day techno-cultural fest.
- Oversaw execution of 25+ technical and cultural events, ensuring smooth operations and high attendee satisfaction.

CERTIFICATIONS

DataSciencewithPython - Iamneo

Fullstack Development (MERN) with MongoDB Developer certification - Smartbridge