Madhur Rai

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TECHNICAL SKILLS

Languages: C++, Web-Development [HTML, JS, CSS]
Frameworks/Libraries: Tailwind CSS, Material-UI, Bootstrap, FastAPI
Tools: AWS, Git, GitHub, MySQL, DevOps & Deployment

PROJECTS

Smart Agriculture Management System | *HTML, CSS, NodeJS, MongoDB* *Oct 2023*
- Developed a responsive web application using React.js and Node.js to enable data-driven farming decisions, increasing crop yield efficiency by 22%.
- Created RESTful APIs to integrate IoT sensor data (soil moisture, weather) with predictive analytics models
- Designed optimized NoSQL schemas for fast queries on time-series IoT data (soil moisture, temperature) with Mongoose ODM

Accident Detection | *Python, OpenCV, YOLO, GPS* *July 2024*
- Developed a real-time accident detection model using YOLOv5 and OpenCV, achieving 92% accuracy in identifying collisions from traffic camera feeds.
- Optimized model performance to process 30 FPS on edge devices using TensorRT quantization.
- Implemented GPS coordinate extraction from accident scenes using: Camera metadata (EXIF data from IP cameras)

AI-Powered Collaborative Tour Planner | *Next.js 14, Tailwind CSS,API , Razorpay* *May 2024*
- Developed a Next.js 14 travel platform with Tailwind CSS and Shadcn-UI components for optimal responsiveness
- Integrated OpenAI API to generate personalized itineraries using NLP and budget-aware recommendations.
- Implemented Razorpay payment gateway supporting multi-currency transactions with 95% success rate
- Developed JWT authentication with role-based access control for secure user management.
- Optimized performance with Next.js Server Actions and ISR.

CERTIFICATIONS

Oracle Java Foundation Associate – Java Programming	*March 2025*
IBM Cyber Security Analyst – CyberSecurity	*April 2025*
NPTEL – Cloud Computing [Topper 1%]	*May 2024*
NPTEL – Marketing Analytics [Silver]	*April 2025*

EXTRA-CURRICULAR

- **Volunteer**, Managed participants at Linpack Club in ADVITYA 2024 at VIT Bhopal University.
- **Participant**, Cultural and Hackathon Event Participant at VIT Bhopal University.

EDUCATION

VIT Bhopal University	Bhopal, MP
Bachelor of Technology in Computer Science and Engineering – CGPA: 8.68	*Nov 2022 – Present*
Delhi Public School (CBSE)	Jabalpur, MP
Senior Secondary (12th) – 86.6%	*July 2022*
Delhi Public School (CBSE)	Jabalpur, MP
High School (10th) – 82.4%	*March 2020*