Pratik Raj

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Profile Summary

Software Developer skilled in MERN stack development, and system design. Strong foundation in data structures & algorithms, object-oriented programming and scalable web applications. Technical Lead at Team Centinels SRM, leading 40+ developers. Passionate about problem-solving, performance optimization, and building efficient systems.

Relevant Coursework

- Data Structures and Algorithms
- Object Oriented Programming
- Information Security
- Programming for Problem Solving
- Computer Networks
- System Design
- Operating System
- Database Management
- Artificial Intelligence

Experience

Samsung R&D Institute India | Prism Intern   **Jan 2025 – July 2025**

- Worked to develop an AI-powered gait and fall detection system using smartphone sensors and wearable technology. Collected real-time data from multiple sources and analyzed them to extract meaningful insights.
- Built and trained machine learning models leveraging both real-world and sensor data for accurate predictions. Developed a custom Android app for real-time data capture utilizing the accelerometer and gyroscope sensors.
- Implemented server-side ML deployment with Python and Django, enabling scalable inference and analytics. Applied signal processing, cross-validation, and visual analytics to derive meaningful mobility insights focused on healthcare applications

Projects

Video Proctoring Analysis System | *Python, OpenCV, AIML*   **Mar 2025**

- Designed and developed a video proctoring analysis model using computer vision and machine learning to detect suspicious behaviors during online exams.
- Built the authentication system and achieved over 90% accuracy in identifying anomalies such as eye movement, face absence, and multiple persons in frame.
- Integrated real-time video **processing** and alert generation for scalable deployment in remote assessment platforms.

KairosEye: AI-powered API Monitoring and Anomaly Detection | *Python, Rest API, Machine Learning*   **Jan 2025**

- Developed an AI-powered API Monitoring and Anomaly Detection System for real-time monitoring across distributed environments
- Implemented modules for anomaly detection in response times and error rates, predictive analytics for failure forecasting, and cross-environment log correlation.
- Built with Python, REST APIs, and integrated Interactive dashboards for visualization. System architecture includes modular components for data collection, analysis, ML-based prediction, alerting, and storage.

Sustinlyzer360 – Gamified Carbon Footprint Tracker | *JavaScript, TypeScript, Kotlin, Ruby, Swift*   **Dec 2023**

- Developed an eco-impact gamification web app with user dashboards, badges, and challenges.
- Built leaderboard-based reward engine using MongoDB aggregation pipelines and Express.js APIs.

Technical Skills

Programming Languages: C, Java, Python, JavaScript

Web Development: React.js, Node.js, Express.js, MongoDB, Tailwind CSS

Tools & Platforms: Git, GitHub, Linux (Kali Linux, Ubuntu), Visual Studio Code, Command Line Tools

Education

SRM Institute of Science and Technology   **Aug 2023 – June 2027**

Bachelor in Computer Science – CGPA: 8.5

Achievements

Winner – Hackathon, IIT Kharagpur   **March 2025**

- Secured 1st place among 500+ teams in the Hacktank Hackathon with a Cash Prize of 50k.
- Developed an AI - powered Video Proctoring Analysis Model for enhanced accuracy to detect Cheating in exams.
- Leveraged AI/ML techniques to improve Cheating outcomes and collaborated with a diverse team to design and implement the winning project.

Winner – CodeEthics Hackathon, Unstop | Nov 2024

Lead, Team Centinels | sept 2023