

Mahak Dwivedi

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 LinkedIn

 GitHub

Education

Vellore Institute of Technology, Bhopal Integrated M.Tech in Computer Science and Engineering (Computational and Data Science) CGPA: 8.32 / 10	Nov 2022 – Present
Govt. Model H.S. School, Madhya Pradesh Class XII (MPBSE) – 90.2% (1st in District)	May 2022
Govt. Model H.S. School, Madhya Pradesh Class X (MPBSE) – 90%	May 2020

Technical Skills

Programming: C++, Python, JavaScript (Node.js), SQL
Machine Learning: Scikit-learn, TensorFlow, Isolation Forest, Prophet (Time-Series Forecasting), LSTM, Pandas, NumPy
Backend & Web: Express.js, Flask, REST APIs, Microservices Architecture, HTML, CSS, JavaScript
Observability & Monitoring: OpenTelemetry, Grafana, Loki, Tempo, Mimir, Prometheus
DevOps & Tools: Docker, Docker Compose, Git, GitHub, Linux, VS Code
Databases: MongoDB
Integrations: Twilio API, Gemini API

Projects

AI-Powered API Monitoring Anomaly Detection System	<i>Code</i>
<ul style="list-style-type: none">Designed and implemented an AI-powered API monitoring system integrating OpenTelemetry and Grafana stack (Loki, Tempo, Mimir) for real-time observability across distributed services.Built an Isolation Forest-based anomaly detection engine to identify latency spikes, error rate anomalies, and abnormal traffic patterns.Developed a Prophet forecasting pipeline to predict traffic trends and potential system failures for proactive alerting.Automated incident response using Twilio phone alerts and AI-generated Root Cause Analysis (RCA) reports, reducing manual debugging effort.	

AI Loan Approval System	<i>Code</i>
<ul style="list-style-type: none">Built an AI-driven loan approval system using Python, Flask, and Scikit-learn to automate customer eligibility decisions.Trained and deployed ML classification models for real-time credit risk prediction with improved accuracy.Optimized data preprocessing, feature engineering, and model pipelines to enhance reliability and performance.Integrated the trained ML model into a full-stack web application for instant, user-friendly decision making.	

AI-Based Smart Garbage Monitoring System	<i>Code</i>
<ul style="list-style-type: none">Developed an intelligent waste monitoring system to track garbage fill levels and prevent overflow in urban areas.Utilized image processing and sensor-based techniques for real-time waste level detection and analysis.Implemented automated alert generation to notify authorities upon threshold breaches.Designed route optimization logic to improve waste collection efficiency and reduce operational costs.	

Certifications

NPTEL: Introduction to Machine Learning	<i>View</i>
Coursera: Applied Machine Learning in Python	<i>View</i>
Ethnus: MERN Full Stack with AI Internship Program	<i>View</i>

Achievements

- Awarded **Dream STAR Scholarship** at VIT Bhopal (Top 5% of batch).
- Secured **1st Position in District Merit** in Class XII (MPBSE).

Experience

- Core Member** — Data Science & Cloud Computing Club
- Active core member contributing to technical events, workshops, and collaborative projects.

Additional Information

- Languages:** English (Fluent), Hindi (Native)
Hobbies: Singing, Photography, Competitive Coding