

# Diptesh Das

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## About Me

Computer Science undergraduate focused on artificial intelligence and machine learning, with hands-on experience in multi-agent systems, autonomous robotics, geospatial ML, and full-stack AI applications.

## Education

**Vellore Institute of Technology (VIT), Vellore** 2024–Present  
B.Tech in Computer Science and Engineering, CGPA: 9.39  
**Indian Institute of Technology (IIT) Madras** 2024–Present  
Bachelor of Science in Data Science and Applications, CGPA: 8.84  
**The Assembly of God Church School, Kolkata**  
ICSE: 98.8% (AIR 5, 2022) — ISC: 96% (AIR 16, 2024)

## Experience

**AI Researcher, Autonomous Vehicle Research Centre, VIT** Jan 2026–Present

- Developing AI-driven swarm intelligence for Crazyflie drones and UAVs.
- Building autonomous coordination frameworks for UGV systems.

**Research Intern, IIT Kharagpur** 2025

- Applied ML and spatio-temporal analysis on traffic accident data using Google Earth Engine.
- Contributed to research supporting data-driven urban safety interventions.

**Team Lead, Team Prometheus (RoboCup SSL)** 2025–Present

- Designed multi-agent control strategies and path planning algorithms for RoboSoccer robots.
- Led integration and testing of vision, control, and communication modules.

**Senior Core, CSI-VIT** 2025–Present

- Led AI-focused initiatives, workshops, and technical sessions within the student chapter.
- Contributed to AI/ML project development and mentoring junior members.

## Projects

### Samadhaan – Brain Service (Civic Complaint Processing Microservice)

- Architected and deployed a production-grade FastAPI microservice to streamline end-to-end civic grievance intake and management (admin dashboard + client interface).
- Engineered automated audio transcription, complaint categorization, and structured data extraction to enable intelligent routing and faster resolution workflows.

### Spatio-Temporal Accident Risk Prediction (Published as a research paper at InGARSS)

- Built ML-based predictive framework using Google Earth Engine for traffic risk analysis.
- Generated accident risk maps (2021–2023) for urban safety planning.

### KrishiMitra – AI Agricultural Assistant

- Developed AI assistant for crop planning, yield prediction, and market price forecasting.
- Implemented multilingual dashboards for accessible decision-making.

### CreoSynth – Multi-Agent Content Automation Platform

- Developed CrewAI-based multi-agent system for automated content creation and brand compliance.
- Implemented workflow orchestration and real-time status tracking.

## Technical Skills

**Programming:** Python, Java, C++, SQL, TypeScript, JavaScript, Solidity, HTML, CSS

**AI/ML:** Machine Learning, Deep Learning, NLP, Multi-Agent Systems, Swarm Intelligence

**Frameworks/Tools:** TensorFlow, Keras, FastAPI, Google Earth Engine, Power BI, DataBricks

**Databases:** PostgreSQL

**Developer Tools:** Git, GitHub, Google Colab

## Certifications

- Microsoft Power BI Certification – Data Analytics ETL (2024)
- Web Development – IBM (2025)