

# SATYA BHARGAV MADDIPATI

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## Education

### University of Wisconsin-Madison

*MS Computer Science — Machine Learning, AI, Database Systems*

**Madison, WI**

*Sep 2025 - May 2027*

### Indian Institute of Technology Bombay

*B.Tech-M.Tech Dual Degree with Honors — GPA: 8.5/10*

**Mumbai, India**

*Aug 2018 - Aug 2023*

## Experience

### Tata AIA Life Insurance

*Assistant Manager - Data Science*

**Mumbai, India**

*Jun 2023 - Aug 2025*

- Architected production **Agentic AI systems** using **LangGraph/CrewAI**, processing **daily claims** with autonomous decision-making, reducing manual review by **35%**
- Designed and developed an advanced RAG-based chatbot for insurance policy recommendations using GPT-4 & LlamaIndex, incorporating semantic chunking, contextual retrieval, and re-ranking for enhanced accuracy.
- Fine-tuned **5+ LLM models (Llama 3.2, Qwen 2.5)** using **QLORA/PEFT** for document classification, achieving **94% accuracy**
- Architected an insurance recommender system processing customer records, embedding interactions, policy attributes, and behavioral patterns for personalized recommendations, enhancing lifecycle value and cross-selling opportunities.
- Worked as part of the DSF strategy team to scale the insurance business, designing a strategy to increase sales by **80% YoY** from 250 Cr (FY24) to 450 Cr (FY25)

### Trend Analysis & Forecasting of Air Quality in Urban Environments

**IIT Mumbai, India**

*Dual Degree thesis-Prof.B.V.S. Vamsi*

*Apr 2022 - Jun 2023*

- De-trending the time series of air quality & removing meteorological effects influencing it by implementing a stochastic approach by implementing signal filtering to air quality time series data using the **KZ Filter**.
  - Forecasted air quality by integrating XGBoost and Random Forest models, incorporating extensive meteorological parameters, and leveraging Shapley analysis for unrivaled precision and interpretability.
- Seasonality in Time Series Forecasting Different Time Series Forecasting Models.

### Eureka Infotech Inc

**Mumbai, India**

*Data Analyst Intern*

*May 2021 - Jun 2021*

- Decreased the runtime of a sales forecasting model from 2.5 days to 145 minutes by re-engineering workflows with batch computing.
- Designed, developed, and Dockerized an AutoML framework integrating multiple ML models with optimization pipelines.

### Sree Hanuman Granites

**Khammam, India**

*Web & Marketing Intern*

*Dec 2020 - Jan 2021*

- Built a customer-facing website (HTML, CSS, JavaScript), leading to a **7% increase in sales**.

## Projects

### Multi-Agent LLM Evaluation Platform — LangGraph, OpenAI API, Docker, Streamlit

**Sep 2024**

- Built evaluation platform comparing **GPT-4, Claude, Gemini** with automated judge models, achieving **89% correlation** with expert ratings across **1,000+ test cases**

### Source Apportionment Using Particle Number Size Distribution Data — GMM, k-Means **Jan 2022 - Apr 2022**

- Built ML framework combining Multi Log-normal Regression, Gaussian Mixture Models, and Gradient Descent, achieving 25% higher accuracy over PMF baselines for particle size distribution.

## Technical Skills

**Programming:** Python, C++, SQL, JavaScript, R, MATLAB, Java

**ML/AI Frameworks:** PyTorch, TensorFlow, Scikit-learn, XGBoost, Pandas, NumPy, OpenCV, Hugging Face

**LLMs & Advanced AI:** GPT-4, Claude, Llama 3.2, Qwen 2.5, LangChain, LangGraph, CrewAI, QLORA, PEFT

**Cloud & DevOps:** AWS (S3, EC2, SageMaker), Azure (ML Studio, Container Apps), GCP, Docker, Kubernetes, MLOps

**Databases & APIs:** PostgreSQL, MongoDB, Redis, Pinecone, Weaviate, FastAPI, Flask, REST APIs, Microservices

## Achievements

**Academic:** JEE Advanced Top 0.5% (250K candidates), JEE Mains Top 0.3% (1.58M candidates)

**Industry:** Tata Innovation Workshop Nominee, Web Coordinator Techfest IIT Bombay, Inter-IIT Bronze Medal