Yash Raju Masane

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SUMMARY

AI and ML professional with expertise in Python and modern frameworks including PyTorch, TensorFlow, and Hugging Face. Skilled in building solutions involving LLMs, RAG systems, Agentic AI, NLP, and computer vision. Adept at leveraging data-driven insights to enhance efficiency and performance. Available for immediate joining.

SKILLS

- **Programming:** Python, SQL
- **Libraries & Frameworks:** PyTorch, TensorFlow, Scikit-learn, Hugging Face Transformers, LangChain, LangGraph, LangSmith, n8n, NumPy, Pandas
- **Generative AI & LLMs:** GPT, BERT, RAG, Agentic Workflows, Multi-Agent Systems, Prompt Engineering
- **Computer Vision:** Image Classification, Object Detection, Image Preprocessing
- **Data Analysis & Statistics:** Time-Series Forecasting, Predictive Modeling, Hypothesis Testing, Exploratory Data Analysis
- **Databases & Vector Stores:** MySQL, MS SQL Server, ChromaDB, Pinecone, FAISS
- **Deployment & DevOps:** AWS (S3, EC2), Azure, Docker, Git, DVC GitHub, FastAPI, MLflow, Streamlit

EXPERIENCE

Machine Learning Intern — October 2024 – January 2025
AnuBrain Technologies

- Developed a **deep learning model** to estimate the **Direction of Arrival (DoA)** from sequential antenna signals with high angular precision.
- Applied **LSTM** for temporal patterns and **CNN** for spatial features, achieving an R^2 **score** of **0.95** and **MAE** of **2.79°**.
- Improved feature extraction with **sinusoidal positional encoding** and **16-head Multi-Head Attention** (key dimension: 128), reducing **RMSE to 5.9°**.
- Selected the top **50 features** using **MRMR**, improving signal clarity by **15%** through redundancy reduction.
- Optimized feature subset with Improved **Grey Wolf Optimization** (30 agents, 15 epochs), cutting validation loss by **8%**.
- Validated model with **5-fold cross-validation** and **hyperparameter tuning** using **scikit-learn**, with **96%** of predicted angles falling within a **±5° error margin** of the actual values.

PROJECTS

MoneyMinds – AI Agents for Investment Analysis — GitHub

- Built a **multi-agent stock analysis platform** to support investment decisions for retail traders with minimal financial literacy.
- Designed **3 autonomous agents** to automate **technical**, **fundamental**, and **sentiment analysis**, reducing manual effort by **40%**.
- Integrated a **validation agent** for verifying key metrics (**Sharpe ratio**, **beta**, **drawdown**) and embedded a **RAG module** for LLM-grounded recommendations.
- Deployed using **CrewAI**, **Gemma-2 LLM**, and **Streamlit**, analyzing **20+ KPIs**, **5 sentiment signals**, and **5-year historical data** per stock.

InsurePredict – End-to-End Insurance Purchase Prediction System — GitHub

- Developed production ML system achieving **95.84% accuracy** and **88% recall** using **Gradient Boosting** with advanced **RENN undersampling** to solve severe class imbalance in insurance conversion prediction.
- Implemented comprehensive **MLOps architecture** featuring automated data pipelines, data versioning with **DVC**, experiment tracking via **MLflow**, and containerized deployment with **Docker on AWS**.
- Delivered scalable **FastAPI service** with **MongoDB** integration and **GitHub Actions CI/CD**, enabling real-time predictions at **10.16 requests/second** with automated model retraining and drift monitoring.

EDUCATION

Motilal Nehru National Institute of Technology, Allahabad — August 2022 – May 2024
M.Sc. in Mathematics & Scientific Computing — CPI: 7.48

Nagpur University — July 2018 – June 2021
Bachelor of Science — CGPA: 8.44

ACHIEVEMENTS

- **GATE 2024 (AI & Data Science)**: Secured All India Rank 7,686 out of 100,000+ candidates in a highly competitive national exam, demonstrating rigorous expertise in machine learning, deep learning, and data analysis.
- **JAM 2022 (Mathematics)**: Achieved All India Rank 1,095 out of 50,000+ aspirants in a prestigious IIT-conducted exam, mastering foundational skills in linear algebra, probability, and calculus to strengthen analytical rigor.