

# Harsha Vardhan Reddy Tamatam

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## EDUCATION

**RUTGERS UNIVERSITY**, NEW BRUNSWICK, NJ, USA 09/2023 - 05/2025  
Master of Science in Data Science, Dept of Statistics

**MAHINDRA ECOLE CENTRALE**, HYDERABAD, INDIA 08/2016 - 05/2020  
Bachelor of Technology in Computer Science

## WORK EXPERIENCE

**DATA ANALYST INTERN - LS DIRECT**, NY, USA 06/2024 - 12/2024

- Redesigned an existing imbalanced classification model by incorporating text field embeddings and new features, then deployed and maintained it in production, improving recall and boosting ad targeting efficiency by 4%.
- Created vector data stores for 15M+ users and implemented Azure AI Search to power high-accuracy semantic retrievals.
- Built scalable ETL pipelines using Airflow, dbt, and GCS to automate SQL-to-BigQuery migration, integrating version control, data validation, and scheduling to ensure seamless, reliable data flow.

**PRODUCT ASSOCIATE - VEDANTU LEARNING**, INDIA 12/2021 - 08/2023

- Fine-tuned and deployed a DistilBERT model with PyTorch and FastAPI to intelligently classify and map student queries(or tickets) to tutors in real-time, reducing response times by 65% and boosting chat engagement by 1.5X.
- Built XGBoost models on student behavioral data to identify high-risk churn users, and developed dashboards to help sales and leadership teams to design targeted retention strategies.
- Built dashboards to optimize the ad funnel across recall, rough-sort, and fine-sort stages, tracking ranking quality, personalization impact, and drop-off metrics to guide delivery strategy.

**DATA SCIENTIST - KHABRI AUDIO**(YC STARTUP), INDIA 11/2020 - 12/2021

- Built and deployed a deep learning-based recommendation and ranking model, combining FastText embeddings and behavioral features, which served personalized content to 150K+ daily active users, improving CTR by 12%.
- Designed A/B tests and offline evaluation pipelines with PMs and Data Scientists, optimizing search and recommendation models using metrics like dwell time and CTR.

**MACHINE LEARNING ENGINEER (Co-Founder) - AUTODUB**, INDIA 04/2018 - 11/2020

- Founded and led Autodub.in, developing AI-powered speech translation software to enable multilingual accessibility.
- Scaled AI infrastructure from scratch, enabling rapid video dubbing at 90% lower cost and near-human accuracy.
- Autodub's technology was acquired by Khabri Audio after national media recognition for dubbing COVID-19 awareness content in Indian languages.

## SKILLS

- Programming:** Python, Pytorch, HF-Transformers, LangChain, FastAPI, Django, Streamlit
- AI & ML:** Gen-AI, Machine Learning, Deep learning, NLP, LLMs, RAG, ML System Design, Data Modeling
- Databases & Cloud:** SQL, MongoDB, Pinecone, BigQuery, Redis, Airflow, GCP, AWS, Kubernetes, CI/CD

## RESEARCH EXPERIENCE & PROJECTS

**FOUNDATION MODELS EVALUATION & USE-CASE MAPPING** 01/2025 - Present  
*AI ETHICS LAB, RUTGERS UNIVERSITY* Advisor - Dr. Mhamed Bettaieb

- Co-Authoring a research study on existing foundation models, comparing architectures and applications across domains.
- Developing a structured model selection framework, guiding optimal LLM choices for different real-world scenarios.

**CSHORTS - AI NEWS SUMMARIZATION PLATFORM - DEMO**

- Fine-tuned and quantized a T5 model for abstractive summarization, reducing model size by 45% and optimizing for low-cost, scalable inference; deployed the model on AWS SageMaker.
- Built a real-time FastAPI backend and Streamlit dashboard to ingest unstructured news feeds; implemented text extraction workflows via PDF parsers and transcription tools, and store the processed text in MongoDB.

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