

# Adithya Narayan

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## Profile

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Motivated MS CS graduate with expertise in building scalable ML platforms for image, text, and speech modeling use cases. Passionate about real-time inference pipelines, multi-modal learning, and MLOps. Possess strong collaboration/prototyping skills with over 2 years of experience across Fortune 10 and Series B setups.

## Education

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**Northeastern University - Khoury College of Computer Sciences** – Boston, MA

Master of Science in Computer Science, May 2024

**Ramaiah Institute of Technology** – Bangalore, India

Bachelor of Engineering in Information Science, June 2020

## Experience

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**Machine Learning Engineer**, Bear Brown LLC – Boston, MA July 2023 – Present

- Improved response relevancy by 50% by deploying an end-to-end RAG (Retrieval Augmented Generation) LLM using Transformer embeddings obtained from parsing over 1,000 NGO-related FAQ PDFs.
- Reduced average user query handling time by over 70% by deploying the fine-tuned LLM into production as a secure, scalable chatbot using React, AWS, and Flask, and implementing response caching using Redis.
- Tools Used: LangChain, LLMs, Transformer Models, Google Cloud, React, AWS, Redis, Flask.

**Machine Learning Research Engineer**, Skit – Bangalore, Karnataka, India Dec 2021 – Aug 2022

- Increased numeric speech recognition model accuracy by over 20% for five different clients, by training DeepSpeech and hybrid CNN/GMM models, and scaling them to over 10 million customers.
- Reduced deep learning model benchmarking time by 40% by building inference pipelines on Kubeflow.
- Built internal CLI tools with Go Routines to generate high-quality synthetic speech transcriptions, enabling the solutions engineering team to fine-tune customer models in 5 hours instead of 2 days.
- Increased customer resolution rate by 30% by performing A/B testing for conversation strategy selection.
- Tools Used: DeepSpeech, PyTorch, AWS, Kubernetes, Kubeflow, Go Routines, Metabase, PostgreSQL.

**SDE - Machine Learning(Contract)**, Stride.ai – Bangalore, Karnataka, India May 2021 – Jul 2021

- Developed a multilingual Named Entity Extraction microservice with an F1 score of 0.8, using Transformers, SkipGram, and RNN-LSTM, deployed across 10+ public schools.
- Extended internal large dataset preprocessing platform with Airflow, authoring pipelines to denoise and clean over 10,000 multilingual documents stored on AWS S3.
- Tools Used: Transformers, SkipGram, RNN-LSTM, AWS, Flask, Kafka, Airflow.

**IT Software Engineer**, Shell – Bangalore, Karnataka, India Sep 2020 – May 2021

- Devised and built ETL pipelines for regulatory services and reporting using SQL and Object-Oriented ABAP, querying 100+ GB daily for 500+ users across Finance and HR teams.
- Tools Used: SQL, Object-Oriented ABAP.

## Academic Projects

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### LLMs for Speech and Documents

- Built and implemented a state-of-the-art LLM model using ETL pipelines incorporating RAG to transform audio and PDF files into AI-readable metadata, and created a search/natural language querying interface enabling users to interact with the LLM and locate context within the corpus.
- Tools Used: AWS, Kafka, LangChain, React, Flask.

## Skills

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**Deep Learning:** Transformers, LLM, PyTorch, TensorFlow, CNN, Seq2Seq, RNN-LSTM, YOLO-v5, Gen AI

**Data Analysis:** Pandas, NumPy, Scikit-Learn, Matplotlib

**Backend:** REST, gRPC, PostgreSQL, MongoDB, Event-Driven Microservices, Django, AWS, Redis

**Orchestration/Data:** Kubeflow, Kafka, Kubernetes, Airflow, Spark, Docker, Github Actions