Adithya Narayan

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Education

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

Machine Learning Engineer, Bear Brown LLC – Boston, MA   July 2023 – Present
- Developed a RAG (Retrieval Augmented Generation) LLM using Transformer Models, leveraging Google Cloud for embedding storage, and parsing over 1,000 NGO-related FAQ PDFs.
- Deployed the LLM model into production as a secure, scalable chatbot using React and AWS
- Used Redis and Flask to implement a scalable LLM querying REST API with question-response caching
- **Tools Used:** LangChain, LLM's, 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 using finetuned DeepSpeech and hybrid CNN/GMM models, scaling to over 10 million customers
- Reduced deep learning model training/benchmarking time by over 70 percent by building model 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, 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
- Built a Document Object Detection microservice using AWS, Kafka, Django and YOLO-v5 CNN for real time, accurate inference for over 1 Million users.
- 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 – April 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

Projects

LLMs for Speech and Documents   *AWS, Kafka, LangChain, React, Flask*
- Developed a RAG fine-tuned LLM model using ETL pipelines to transform audio and PDF files into LLM-readable metadata, and created a search/natural language querying interface enabling users to interact with the LLM and locate context within the corpus

Skills

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
DevOps/Observability: GitHub Actions, Docker, Terraform, Datadog, Elasticsearch, Logstash, Kibana
Orchestration/Data: Kubeflow, Kafka, Kubernetes, Airflow, Spark