Shaun Mendes

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TECHNICAL SKILLS

Languages: Python, R, Java, Javascript, Rust, C++, C, Scala, SQL, Hive QL, R, SparkSQL , ChatML, GraphQL

Machine Learning & Deep Learning: Pandas, NumPy, PyTorch, TensorFlow, Keras, Huggingface, Foundational Models, Scikit-learn, LangChain, Prompt Engineering, PySpark, Hadoop, A/B Testing, CUDA, Data Mining

Cloud & Deployment: AWS, Azure, Databricks, GCP, Flask, FastAPI, Streamlit, React, MySQL, Postgres; NoSQL – Redis, MongoDB, Cassandra; VectorDBs: LlamaIndex, FAISS; Docker, Kubernetes, MLflow, Jenkins, Git, Terraform, CI/CD, vLLM

PROFESSIONAL EXPERIENCE

HERE Technologies (Chicago, IL) | Data Science Intern - Place Creation — May 2024 – August 2024

- Accelerated data preparation, training, and testing for multiple **machine learning and deep learning models** by 60% through streamlining routine processes and leveraging Large Language Models (LLMs) such as **Llama3** and **OpenChat** with carefully crafted prompts for feature extraction and model evaluation.
- Spearheaded a Proof Of Concept (POC) to assess the effectiveness and interpretability of **prompt engineered** versus **finetuned** LLMs in extracting multilingual geo-spatial data to enhance place attribute extraction efficiency by 80%.

HERE Technologies (Mumbai, India) | Senior Data Scientist - Place Creation — April 2021 – August 2023

- Led a team of Data Scientists in designing supervised and unsupervised ML and DL algorithms for extracting place attributes (e.g., name, category, address) expanding HERE Maps **global coverage by 17%** and generating over **10 million records**.
- Identified place websites by training an ensemble of **Random Forest** and **SVM** classifiers to on structural and textual features of the website, achieving **92.5% accuracy**.
- Extracted street addresses and place names from 9 countries by finetuning foundational models on **Named Entity Recognition (NER)** and **Semantic Re-Ranking** attaining an overall **accuracy of 94.3%** .
- Enhanced place website classification across 400+ categories in 6 languages by adapting Transformer models to unique regional nuances improving classification metrics by **7% improvement** over previous benchmarks.
- Achieved **25x cost reduction** in acquiring geospatial data by crafting a scalable MLOps pipeline on AWS, leveraging optimized CPU/GPU instance selection and model compression techniques, including **Knowledge Distillation** and **ONNX**.
- Collaborated with cross-functional teams to design robust model metrics, leading to **90%** return on investment (ROI).
- Streamlined MLOps deployment Infrastructure as code AWS CloudFormation/SAM, **reducing release time by 85**%.

Fractal Analytics (Mumbai, India) | Machine Learning Engineer - AI@Scale — August 2017 – April 2021

- Reported operational risks in client's critical business functions by developing a scalable ETL solution for processing terabytes of **clickstream** data with **PySpark** deployed on AWS EMR, utilizing Jenkins and Oozie for periodic data refresh.
- Accelerated end-to-end data auditing and mapping processes for client sales data by engineering heuristic and machine learning models, reducing team size by 50% (from 8 to 4) and **optimizing delivery timelines by 60%.**
- Expedited CPG client acquisition by parallelizing the training of gradient boosting regression models **(XGBoost and LightGBM)** for demand forecasting, **reducing turnaround time by 75%.**

OPEN-SOURCE PROJECTS

- Developed a **GPT-4o/Llama3** Generative AI multi-modal chat bot using Langchain and Ollama with Retrieval Augmented Generation (RAG) to provide personalized food recommendations and resolve customer complaints.[code]
- Worked on a robust, **hybrid recommendation** and question-answering pipeline by fine-tuning Llama-2 with **QLoRA** coupled with search relevance ranking and custom Retreival Augmented Generation (RAGs). [code]
- Modeled a **collaborative filtering-based** recommender systems for personalized Instacart recommendations, comparing performance with TF-IDF, Singular Value Decomposition(SVD), and Bayesian Personalized Ranking(BPR) methods. [code]
- Developed **image classification** models categorizing indoor scenes (8 classes) using **transfer learning** on Resnet-101 and SE-Resnet-50 models using multi-label and multi-scale training for indoor scene understanding

EDUCATION

Stevens Institute Of Technology — Sept 2023 – Dec 2024
MS in Machine Learning, GPA: 4.0/4.0 — Hoboken, New Jersey

Mumbai University — Jul 2013 – Jun 2017
BS in Electronics and Telecommunications Engineering — Mumbai, India