

Mohit Kumar

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Experience

Machine Learning Intern

Labmentix

Bangalore, India

May 2025 – July 2025

- Fine-tuned a RoBERTa transformer for multi-task classification of support ticket issue type and urgency.
- Engineered a FastAPI backend to serve the model, reducing inference latency by 70% by exporting the PyTorch model to the ONNX format.
- Implemented a rule-based entity extractor for date recognition and keyword matching for product and complaint identification.

Projects

Asteroid Risk Prediction

- Engineered multiple machine learning models to predict asteroid diameters, achieving a high R-squared value of 0.97 with a Decision Tree on NASA's orbital dataset.
- Executed a robust data preprocessing pipeline using scikit-learn for feature selection, scaling, and iterative imputation to handle noisy astronomical data.
- Deployed a Flask API that performed real-time risk classification by calculating a hazard score based on the model's predicted diameter and the asteroid's Minimum Orbit Intersection Distance.

Quoteflow

- Fine-tuned a DistilBERT sentence transformer on 2,500+ English quotes to enable context-aware semantic retrieval and accurate author-quote matching.
- Developed an end-to-end Retrieval-Augmented Generation (RAG) pipeline using FAISS for dense vector indexing and Mistral-7B-Instruct for generating relevant responses to user queries.
- Deployed interactive Streamlit application with real-time semantic search and structured JSON responses.

Cold Email Automation

- Built a generative AI tool that crafts personalized cold emails for job applicants by scraping and analyzing job descriptions from URLs.
- Integrated the LLaMA 3-70B model via Groq API to generate context-aware and role-specific outreach messages based on job descriptions and user profiles.
- Implemented dynamic prompt engineering techniques to extract relevant skills, responsibilities, company values ensuring each email is uniquely tailored to the target job.

Technical Skills

Languages: Python, SQL, C/C++, JavaScript, HTML/CSS, R

Frameworks & Libraries: Pandas, NumPy, Scikit-Learn, PyTorch, Hugging Face Transformers, LangChain, Spacy, NLTK, Matplotlib, Seaborn, FastAPI, Flask

Developer Tools: Git, Docker, VS Code, Streamlit, PyCharm, Jupyter Notebook

Education

SRM University

Bachelor of Technology - Computer Science and Engineering

Sept 2021 – June 2025

Publications

Data Driven Retail Strategy

June 2025

Conducted research applying association rule learning, clustering and demand forecasting to extract actionable insights for retail businesses, optimizing customer targeting and inventory management.