

Rohil Pal

Senior ML Engineer

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🔗 Website

WORK EXPERIENCE

Senior Data Scientist, DataPOEM

Mar 2024 – Present

Bangalore, India

Automation of market mix modelling pipeline

- Replaced a manual, notebook-driven MMM pipeline dependent on sequential execution, ad-hoc interventions, and human approvals with a reliable, traceable, automated pipeline using Temporal.
- The metadata of each workflow run is stored in PostgreSQL, and pipeline artifacts are stored in S3.
- **Impact:** This automation led to faster delivery of MMM results + enabled onboarding of 3 new brands.
- **Stack:** Python, Temporal, FastAPI, PostgreSQL, AWS S3

Transformers for market mix modelling

- Co-developed a custom transformer architecture to learn the mapping between media impressions and the target KPI, such as sales.
- Wrote the distributed training, hyperparameter tuning, and inference pipelines in Pytorch and deployed them using AWS SageMaker.
- **Stack:** Pytorch, AWS SageMaker

Data Scientist, Honeywell

Aug 2021 – Mar 2024

Bangalore, India

Ventilation optimization in AHUs

- The objective of this project was to recommend an optimal set point for outdoor air for an Air Handling Unit (AHU). This is critical for minimising their energy consumption.
- Built the end-to-end data pipeline that consumes raw telemetry data from Azure Event Hubs, transforms it and updates the delta tables periodically. The processed data then feeds into the patented algorithm (co-developed by me) that computes the optimal set point.
- **Stack:** PySpark, Databricks, Azure Eventhubs

Optimal sensor placement in floor plans

- Built the backend logic for automating optimal placement of smoke sensors in commercial floor plans.
- Core components include a YOLOv3-based door-detection model, OpenCV contour detection module to segment rooms, and Mixed-Integer Linear Programming (MILP) approach for sensor placement.
- **Stack:** FastAPI, YOLOv3, OpenCV, MILP

SIDE HUSTLES

Terras , LLM-driven farmers' assistant

- Built an LLM chatbot that helps farmers get expert agricultural advice - covering crop diseases, market prices, and government schemes.
- **Crop Disease Detection:** Farmers upload a photo of their crop, and the LLM agent responds with a diagnosis.
- **Market Prices & Government Schemes:** Pulls live commodity prices via APIs; uses RAG over government scheme PDFs to answer questions about eligibility and benefits.
- **Stack:** FastAPI, Streamlit, OpenAI APIs, Qdrant vector DB, PostgreSQL for caching market data

Sec.io , AI Financial Analyst for SEC filings

- Built an AI financial analyst that answers questions about public companies' financials using custom tools.
- **Multi-agent pipeline:** A clarification agent asks follow-up questions, a planner agent and a summarizer agent.
- **Guardrails:** All financial calculations run through a deterministic Python engine. A post-processing hallucination detection layer validates numerical consistency.
- **Stack:** FastAPI, OpenAI APIs, edgartools

Spendly , Shared Expense Tracker

- Built a shared expense tracking app that lets you log money owed between friends using natural language.
- Powered by an LLM for intent parsing, with a Telegram bot for on-the-go logging and a React dashboard for overview.
- Supports split expenses, recurring deductions, and settlement tracking.
- **Stack:** Python, FastAPI, OpenRouter, React, Telegram Bot API

Howzyourstay , Voice Agent for Guest Feedback Collection

- Built a voice agent that calls hostel guests post-checkout to collect feedback about their stay.
- Streams bidirectional audio between Twilio and OpenAI Realtime API, handles mid-conversation interruptions, and decides when to hang up autonomously via function calling.
- Summarizes the call transcript into structured JSON and stores it in a db.
- **Stack:** FastAPI, OpenAI Realtime API, Twilio Voice API, PostgreSQL

EDUCATION

Bachelor's & Master's, Computer Science, IIIT Bangalore

CGPA: 3.41/4

Aug 2015 – Aug 2020

Bangalore, India