Kunal Paliwal

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Portfolio | Github | Linkedin

Experience

- **PreProd Corp.**   *Nov 2023 - May 2024*
  Data Analyst Intern
  ◦ Implemented Kafka messaging queue for real-time data transfer along with pyspark for data streaming from inventory systems, processing 900k rows in 2-second batches of 100k.
  ◦ Engineered a Data and ML pipeline to predict food demand from restaurant data processing 100K data samples and reaching RMSE of 63.
  ◦ Led the development of the frontend interface for the primary MLOps pipeline, streamlining model monitoring and user interaction.

Projects

- **Food Demand Forecasting** Github   Full Stack + ML
  ◦ An industry-level project development for a food demand forecasting application.   (Team Project)
    - Implemented a Kafka-based messaging system streaming over 900K records in batches of 100K using PySpark.
    - Built a scalable Data and ML pipeline to forecast restaurant food demand using 100K+ samples
    - Managed structured and unstructured data across MongoDB and SQLite
  ◦ Tech Stack: Python, PowerBI, DVC, MLFlow, MongoDB, SQLite, Kafka, Pyspark
  ◦ Role: Data Pipelining

- **Fieldly AI** Link | Github   Frontend + ML
  ◦ Developed a one-stop intelligent web platform to modernize traditional farming by providing predictive insights and agricultural tools.
  ◦ Integrated real-time weather data using OpenWeatherMap API and trained ML models on Kaggle datasets for:
    - Crop prediction using a dataset of 2,200 samples (8 features), achieving 95.45% accuracy.
    - Fertilizer recommendation, reaching 98.73% accuracy.
  ◦ Tech Stack: Flask, HTML, CSS, JavaScript, Scikit-learn, OpenWeatherMap API

- **SafeSpace AI** Link | Github   Full Stack + ML
  ◦ Built an AI-powered mental health platform that combines real-time conversation with intelligent emotion detection and mood tracking.
    - Integrated Gemini Flash 1.5 model to power a conversational chatbot offering emotional support and safe space interaction.
    - Developed an ML-based message classifier to detect distress in user chat messages with 89.31% accuracy, triggering real-time alerts to admins
    - Implemented a mood journaling system backed by MongoDB, allowing users to track emotional patterns.
  ◦ Tech Stack: ReactJS, NodeJS, MongoDB, Flask, Scikit-Learn, Gemini Flash 1.5 API
  ◦ Role: Data Pipelining

Education

- **VIT Bhopal**   Bhopal, India
  Bachelor of Technology in Computer Science with specialization in AI-ML; CGPA: 8.45   *Sep 2021 – Present*

PROGRAMMING SKILLS

- **Languages**: Python, Javascript, Java   **Technologies**: MERN, Flask, Scikit-Learn, Tensorflow, Pytorch, Kafka, Pyspark, SQL