

Purva Prakash Kekan

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WORK EXPERIENCE

AI Analyst, IpserLab | Remote, USA

May 2025 – Present

Early-stage AI startup building CAVO, an AI-powered trip-planning platform leveraging LLMs, RAG and recommendation systems for traveler safety

- Engineered end-to-end ETL data pipelines in Python and SQL using dbt and GitHub Actions CI/CD applying LangChain and RAG patterns for retrieval-augmented context enrichment that reduced inference latency by 25% and cut pipeline failures by 30%
- Designed reusable data models and ML feature datasets on relational databases and Delta Lake tables, leveraging Feast feature store and FAISS vector similarity search to enable real-time recommendations and improve model accuracy by 28%
- Built a Python-based data validation and anomaly detection framework with Prometheus monitoring and hybrid search (BM25 + vector similarity) plus re-rankers for advanced RAG quality control, reducing downstream prediction errors by 30%
- Developed Power BI and Streamlit dashboards integrated with Weights & Biases and LangSmith, leveraging OpenAI API and GPT-4V for model debugging to accelerate experiment analysis and cut model triage time by 30%
- Deployed containerized ML and data services with Docker and Kubernetes on AWS and Databricks, standardizing cloud data pipelines and model refresh workflows for geospatial recommendation systems at scale

Data Engineer, HDFC Bank Ltd | Mumbai, India

Aug 2022 – Aug 2023

India's largest private sector bank with \$21B+ annual revenue, 173,000+ employees and operations across 6,300+ branches in 18 countries

- Built SQL-based ETL transformations and data models for credit risk analytics on 500K+ financial records using AWS SageMaker Feature Store, Tecton and BigQuery exports, reducing lineage rework by 40%
- Automated batch and incremental data pipelines with Python and dbt, using DVC and Terraform to enforce data governance and improve data quality, reducing prediction conflicts by 20% in regulatory reporting
- Increased processing efficiency by 35% with Apache Spark for distributed computing and Ray for parallel processing, and designed Kafka streaming pipelines for real-time ingestion into cloud data stores that improved operational efficiency by 45%
- Established production-grade monitoring for ML services using TensorFlow Serving, TorchServe and Grafana with Phoenix (Arize AI) integration to deliver comprehensive ML governance and model performance SLAs
- Implemented MLflow based experiment tracking and model versioning integrated with Haystack NLP pipelines and Weights & Biases, enabling reproducible ML workflows and supporting cross-functional collaboration across risk, compliance and business analytics teams

PROJECT

Atomic Habits: Semantic Relationship Mapping | GitHub

Tech Stack - LangChain, LlamaIndex, LangGraph, Hugging Face Transformers, FAISS, Chroma, Streamlit, PyVis, NetworkX

RAG-based semantic mapping app with interactive data visualization for 50+ concepts

Respiratory Mortality Analysis System | GitHub

Tech Stack - Scikit-learn, Pandas, NumPy, FastAPI, NGINX, Redis, AWS S3, Celery, Alembic

Scalable ML and data pipeline platform for real-time predictions on 200K+ CDC respiratory records

Boston 311 Opioid Crisis: Geospatial Analytics & Forecasting System | GitHub

Tech Stack - Pandas, NumPy, Matplotlib, Seaborn, Power BI, SARIMA, DAX, PostgreSQL, Geospatial Mapping, ArcGIS

ML forecasting platform analyzing over 3 million records, achieving 15% demand reduction post-policy

TECHNICAL SKILLS

- Programming and Data Engineering:** Python, SQL, Pandas, NumPy, ETL, Data Pipelines, Data Modeling, dbt, Apache Spark, Ray, Kafka, FastAPI, Celery, Alembic, NGINX
- AI/ML and LLMs:** Scikit-learn, MLflow, TensorFlow Serving, TorchServe, LLMs, RAG, LangChain, LlamaIndex, LangGraph, Haystack, Hugging Face Transformers, Feast, FAISS, Chroma, Recommendation Systems, Experiment Tracking, Model Versioning
- Cloud Platforms and Infrastructure:** AWS (S3, SageMaker), Databricks, Terraform, Docker, Kubernetes, GitHub Actions CI/CD, Redis, DVC, Phoenix (Arize AI), WhyLabs, Prometheus, Grafana
- Data Analytics and Visualizations:** Power BI, Streamlit, LangSmith, Weights & Biases, OpenAI API, GPT-4V, Matplotlib, Seaborn, PyVis, NetworkX, SARIMA, DAX, PostgreSQL, Geospatial Mapping, ArcGIS

EDUCATION

Master of Science in Analytics - Northeastern University | Boston, MA

GPA 3.93/4.0

Bachelor of Science in Information Technology - Mumbai University | Mumbai, India

GPA 3.70/4.0