Pranjal Verma

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Experience

Accenture Pune, IN

Machine Learning Engineer *Sept 2024 – Present*

- Architected and deployed **production-grade MLflow pipelines** to automate feature engineering workflows across multiple ML models, achieving **12% reduction in training-phase defects** and standardizing model deployment processes.
- Optimized deep learning model performance through strategic **Keras-based fine-tuning**, delivering **398MB memory optimization** and eliminating **6 hours weekly** of computational overhead during model retraining cycles.
- Developed and scaled a **distributed Hadoop-based sentiment analysis system** capable of processing real-time customer feedback, resulting in **54% increase in daily processing capacity** and enhanced business intelligence insights.
- Designed and orchestrated comprehensive **end-to-end ML infrastructure on Google Cloud Platform**, leveraging **Vertex AI, BigQuery, and Cloud Run** to achieve **99.9% system availability** while reducing operational costs through serverless architecture and auto-scaling capabilities.

Walkover Indore, IN

Software Engineer *Jan 2024 – Sept 2024*

- Developed and maintained **high-performance web applications** using **Python** and **ReactJS**, implementing advanced component optimization techniques that achieved **25% improvement in page load times** and enhanced user experience across mobile and desktop platforms.
- Architected and implemented a **fault-tolerant microservice architecture** with **RabbitMQ message queuing**, successfully processing **15,000+ daily messages** with **99.9% reliability**, supporting critical business operations and high-throughput data processing requirements.
- Collaborated extensively with **cross-functional development teams** to streamline API integration and resolve system bottlenecks, maintaining **90% critical bug resolution rate within 24 hours** and ensuring seamless delivery of mission-critical software releases.

Projects

ERDiagram to JSON | *PyTorch, Computer Vision, MLOps* Jan 2025 – Apr. 2025

- Fine-tuned **Qwen2.5-VL-3B-Instruct vision-language model** using **LoRA adaptation** to **extract structured JSON schemas from database ER diagram images**, eliminating manual transcription work.
- Achieved **89.2% table detection accuracy** and **90% relationship extraction accuracy**, significantly improving from **base model performance**

Daily Retail Sales Batch Pipeline | *PySpark, Kafka, Apache Airflow, GCP* Oct 2024 – Jan 2025

- Developed a scalable batch **ETL pipeline** using **PySpark** on **GCP Dataproc** to process and **aggregate 20 million daily retail transactions**, enabling daily sales and inventory analytics with optimized processing times.
- Automated data orchestration and monitoring with Apache Airflow to schedule batch jobs, validate data quality, and orchestrate BigQuery data loads, improving pipeline reliability and reducing manual intervention.

Kidney Stone Risk Prediction Research | *Data Analysis, Machine Learning* Sept 2024 – Nov 2024

- Conducted **epidemiological research** using NHANES 2017-2020 data to investigate associations between physiological, demographic, and dietary factors in kidney stone formation
- Designed and implemented **ensemble machine learning methodology** combining multiple classifiers to predict kidney stone risk with **90.4% accuracy**.
- Performed comprehensive **data analysis and feature engineering** across **145 variables**, revealing significant associations between kidney stones and many conditions like hypertension, gallstones, and specific dietary components

Technical Skills

Languages: Python, TypeScript, SQL, C++
Machine Learning: PyTorch, TensorFlow, Scikit-learn, Pandas, NumPy
Other Tools: Unix, Git, Docker, Kubernetes, GCP (BigQuery, Cloud Storage, Dataproc), PySpark, Hadoop

Education

Devi Ahilya Vishwavidyalaya, Indore — *CGPA:* ***7.2***
Masters in Computer Application — *Aug. 2022 – May 2024*

Integral University, Lucknow — CGPA: **8**
Bachelor in Computer Application — *Aug. 2019 – May 2022*

Certifications

- *Google Cloud Associate Cloud Engineer*, Google Cloud, 2025
- *Google Cloud Associate Data Practitioner*, Google Cloud, 2025
- *Google Cloud Digital Leader*, Google Cloud, 2025