# Vishakha Dikshit

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Full-Stack Data Scientist with 3+ years of experience building scalable ML and data pipelines in cloud environments with demonstrated success in predictive modeling, MLOps, deep learning, and Generative AI.

#### SKILLS

Languages : Python, SQL, Java, Shell Scripting, JavaScript, R

: PyTorch, TensorFlow, HuggingFace Transformers, Spacy, XGBoost, OpenCV, Sklearn, MLflow Machine Learning

Cloud : Azure, Google Cloud, AWS, Docker, Kubernetes, Nginx, Redis, Apache Spark, Kafka

Generative AI : LangChain, LlamaIndex, QLoRA, Faiss, Neo4j, RAG, MCP, Fine-tuning, Prompt Engineering

Experience

# Senior Data Scientist

April 2022 - Aug. 2023

App Orchid

Hyderabad, India

- Led a team of 3 data scientists to build automated multi-modal pipeline to parse legal documents, reducing manual processing by 100,000+ hours annually
- Fine-tuned OpenAI's GPT-3 davinci model for document classification, achieving 93% accuracy
- Streamlined data workflows using ETL tools like PySpark and Databricks, reducing processing times by 30%
- Applied Detectron2 and PyTorch for layout-aware image segmentation enhancing downstream OCR in the pipeline
- Built and deployed a NER engine using RoBERTa served via Flask API, achieving 94.5% precision
- Created CI/CD pipelines for Role Based Access Control, model versioning, and audit logging using MLflow, Docker & Azure DevOps to ensure secure, traceable model deployments

Data Scientist I

July 2020 – April 2022

Bengaluru, India

- HDFC Life • Developed a risk classification pipeline for 50,000+ daily calls using an ensemble of BERT and PyTorch DNNs, achieving 98% accuracy; integrated with AWS S3 and AWS Transcribe
  - Used call telemetry and metadata to train deep autoencoder models for real-time fraud detection
  - Trained LSTM models in PyTorch for forecasting sales surges, improving business planning accuracy
  - Enhanced face verification system accuracy to 98% by implementing ArcFace embeddings and Visual Transformers
  - Built hyper-personalized recommendation system using XGBoost processing behavior data from 1M+ users
  - Leveraged SageMaker Pipelines and CloudWatch for monitoring and retraining of in-production models

# Research & Projects

# Graduate Research Assistant

August 2024 – Present

Bloomington, Indiana

Prof. Pratik Sharma, Indiana University

- Optimizing serverless latency of large language model (LLM) inference by GPU scheduling & KV-Cache reuse
- Developed a GPU queue forecasting model with Structured State Spaces (S4) for preemptive request scheduling
- Designing a multi-agent LLM simulation framework using Model Context Protocol (MCP) to emulate GPU tasks
- Submitted Publication: MQFQ-Sticky Fair Queueing for Serverless GPU Functions, HPDC 2025

#### Generative AI Research Intern

May 2024 – August 2024

Prof. Nalini Ratha, University at Buffalo

Buffalo, NY

- Designed an active RAG pipeline using LangChain & FAISS for dense embeddings and Selenium for web scraping
- Integrated Cohere for query embedding & reranking, leveraged GPT-4 for natural language answer generation

# Image Segmentation for Flood Inundation Mapping

Course Project: Computer Vision

• Implemented U-Net, LinkNet, Prithvi & SegFormer in PyTorch for flood pixel detection in satellite imagery, achieving 88% mIoU with optimal models on 7-channel (pre/post-flood RGB + elevation) dataset. Report

# Knowledge Graph RAG pipeline using Langchain and Neo4j

Course Project: Advanced NLP

- Extracted entity relationships from documents to populate Neo4j graph db using LangChain and LlamaIndex
- Answered user queries by running Cypher queries over the knowledge graph and text generation by GPT-3.5

# Online Coding Platform

• Built a containerized coding platform using Azure Container Apps, Nginx, Serverless Functions, and Replit Agent; automated question generation with prompt engineering. Developing a mock interview chatbot

# EDUCATION

M.S. in Computer Science, Indiana University, Bloomington, IN — GPA: 3.7/4.0

Aug 2023 – Present

• Teaching Assistant: CSCI 555: Machine Learning, ENGR E 533: Deep Learning Systems

B.Tech in Aerospace, Minor in Computer Science, Indian Institute of Technology Bombay July 2016 – July 2020