

Raghav Chaturvedi

Cloud AI/ML Engineer
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WORK EXPERIENCE

CWX (CloudWerx)

India (Remote)

Cloud AI/ML Engineer

September 2024 – Present

- Implemented **HNSW index** and deployed a **hugging face** model to accelerate AlloyDB query response time from **>1min to <3ms**, hence improving the performance by **99%**.
- Engineered a natural language to SQL pipeline leveraging **Gemini function calling** to enable semantic search capabilities along with feedback mechanism by **detecting vague query**.
- Implemented a custom slack chatbot to improve response times by automating common queries.
- Developed an entity extraction pipeline for scholarship data in a desired format, using **Gemini** and **prompt engineering**.

Quantiphi Analytics Solution Pvt Ltd

Mumbai, India

ML Engineer

Nov 2021 – Aug 2024

- Developed a synthetic brain MRI image generator utilizing ControlNet through accelerated and **distributed training (DDP and FSDP)** on Vertex AI Jobs.
- Designed a ML system to digitize the EMR notes for a multinational healthcare client, yielded **94% F1 score** for digitization of graph present in the notes.
- Developed an NLP detection engine to identify drug-adverse events using a novel transformer architecture based on T5 with an integrated active learning pipeline using AWS Sagemaker achieving a **F1 score of 86%**.
- Researched and fine-tuned **large language models (LLMs)** for extracting KPIs to gain insights on possible causes impacting patient's treatment.
- Established a **human-in-the-loop evaluation pipeline** to assess the intermediate outcomes of the LLM model, leveraging the expertise of a Subject Matter Expert.
- Contributed in creation of detailed **technical documents** covering the finding and experiments of a particular project.
- Contributed to organization initiatives by taking campus technical interview for MLE profile, and also mentoring the new interns joining the organization.

Quantiphi Analytics Solution Pvt Ltd

Mumbai, India

ML Engineer Intern

July 2021 – October 2021

- Implemented a classifier for renal stone in CT images using 3D CNN model and obtained an **F1 score of 92%**
- Explored, validated and shortlisted tools, for implementing a **MLops** platform for a multinational pharmaceutical client.
- Implemented a parameterized 3D GAN for generating synthetic images deployed with automated **CI/CD using Azure Pipelines**

SKILLS

Languages	Python, SQL
NLP	Spacy, Prompt Engineering, LLMops, LLM Training/Finetuning, Transformers, Accelerate, Scikit-learn
Computer Vision	SimpleITK, OpenCV, Detectron2, Transformers, Monai, Image Processing
ML Framework	Numpy, Pytorch, TensorFlow, Keras, Langchain, Pytorch-Lightning
ML Ops	Kubeflow, Kubernetes, Docker, Model Deployment, Distributed training, FastAPI, Model Monitoring, Streamlit
Cloud Services	VertexAI, Google Cloud Run, GKE, AlloyDB, Agent Builder, Sagemaker Pipelines
Cloud Platforms	Google Cloud Platform (GCP), Amazon Web Services (AWS)

EDUCATION

Thapar Institute of Engineering and Technology

Patiala, PB, India

Bachelor of Engineering, Civil Engineering

Jul 2016 - Jul 2020

ACHIEVEMENTS

JUSTIC LEAGUE AWARD AT QUANTIPHI ANALYTICS

2021

- For great collaboration and contribution to the team

CERTIFICATION

2023

- NVIDIA- Fundamentals of Accelerated Computing with CUDA Python