Ayush Pallod

Contact Details

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Skills and Tools

- **Programming**: Python, C, C++, SQL
- **ML / DL & LLM Frameworks**: PyTorch, TensorFlow, Keras, Hugging Face (Transformers), LangChain, LangGraph
- **ML / AI Libraries**: Scikit-learn, NumPy, Pandas, OpenCV, NLTK, Pillow, Matplotlib, Streamlit, SQLAlchemy
- **MLOps & Infrastructure**: Linux, SSH, Git, Docker (basic), NVIDIA T4 & L4 GPUs, E2E Networks, Kaggle
- **Experiment Tracking & Model Serving**: Weights & Biases (W&B), Ollama, Mlflow, Evidently

Certifications

- **Specialization** on **Machine Learning** guided by **Mr. Andrew Ng** on Coursera (Stanford University, DeepLearning.AI)
- Completed **MLOps Zoomcamp** by **DataTalks.Club**

Education

Year	Degree	Institute	CGPA/%
2025-27	M.Tech in IT (Machine Learning and Intelligent Systems)	Indian Institute of Information Technology, Allahabad	9.44
2021-25	B.Tech in (Computer Science and Engineering)	Osmania University, Matrusri Engineering College, Hyderabad	8.72
2019-21	Intermediate (MPC)	TSBIE, FIITJEE Jr. College, Hyderabad	86.4

Scholastic Achievements

★ Winner of **OOC Hackathon 2026** organized by **IIITA**. **[2026]**
★ Ranked in **Top 2% nationwide** in **GATE (CS/IT)** with a normalized **Score of 593** **[2025]**
★ Won the **Innovative Projext Award by CSI Hyderabad Chapter** for developing **Brain Tumor detection and classification sytem** enhancing early diagnosis. **[2024]**

Experience

Amptronics Systems Pvt. Ltd. | Data Analyst Intern **[May, 2024 – June, 2024]**
★ Conducted real time Data Analysis on **WBTMS (Wireless Bus Bar Temperature Management System)** and visualize graphical outputs on HTML pages.
★ Gained experience with **Azure Database** and **SQLite Database**.
★ Automated entire process to run as per client request.

Slash Mark | Data Analyst Intern **[Nov., 2023 – Feb., 2024]**
★ **Analyzed** and **visualized** large datasets using Python libraries like Pandas, Matplotlib,Seaborn.

Projects

AI Multi-Agent Stock Analyst Bot *(Personal)* **[2026]**
Tech Stack – *LangChain, RAG, Fine-Tuned LLMs, Ollama, Streamlit, Financial Analysis*
★ Architected a **LangChain-based multi-agent system** to orchestrate **technical, sentiment & fundamental stock analysis**, enabling modular, production-style financial reasoning workflows.
★ Deployed a **self fine-tuned LLaMA 3.2 domain-specific LLM**, alongside **LLaMA 3.1 (7B) & Phi-3 Mini**, to improve **financial sentiment accuracy, inference consistency & model controllability**.
★ Implemented **MLOps-grade reliability mechanisms**, including a **RAG pipeline for grounded responses**, **out-of-scope query rejection**, model serving via **Ollama**, and a **Streamlit interface** for controlled real-time inference.

End-to-End LLaMA-3.2 Fine-Tuning for Financial Domain *(Personal)* **[2026]**
Tech Stack – *PyTorch, Unsloth, Hugging Face, LoRA, BF16, W&B, NVIDIAL4, E2E Networks*
★ Prototyped SFT on **Kaggle (Tesla T4)** to validate dataset quality, prompt design & **LoRA hyperparameters**, then migrated to dedicated GPU infrastructure.
★ Executed the **master training run on an NVIDIA L4 (24GB) GPU via E2E Networks (India)**, optimizing **BF16 mixed precision, 8-bit AdamW, gradient accumulation & 4-bit quantization**, while fine-tuning only **0.75% of parameters (∼24.3M/3.23B)**.
★ Implemented **production-grade MLOps workflows**, including **SSH-based cloud access (ED25519)**, reproducible Linux environments, background GPU execution, **W&B experiment tracking**, model validation & export of **LoRA adapters**.

Multi-Modal Brain Tumor Segmentation *(Personal)* **[2025]**
Tech Stack – *TensorFlow, Medical Imaging (MRI), BraTS, Optimization Algorithms*
★ Designed an **end-to-end multi-modal MRI segmentation pipeline** using **T1ce, T2 & FLAIR scans** from **BraTS 2023**, incorporating **hybrid denoising filters** to improve noise robustness before model inference.
★ Implemented and evaluated multiple **3D segmentation architectures (U-Net, ResNet-U-Net++, W-Net)** with **metaheuristic optimization (MAVOA, Cat Swarm)**, achieving **0.95 Dice score** on tumor sub-region segmentation.