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EDUCATION

•**Bachelor of Computer Science Hons (Data Science)** *2021-25*
IIMS college, Dhobidhara CGPA: 3.6

PERSONAL PROJECTS

•**RecipeAI – RAG-based Recipe Assistant**

Retrieval-Augmented Generation system for recipe recommendations with LLM integration and vector search.

- Built RAG pipeline with Groq LLM API for context-aware recipe retrieval and recommendations.
- Developed Streamlit web app supporting real-time chat, relevance scoring, and response tracking.
- Implemented PostgreSQL for storing conversation history, feedback, and analytics.
- Created monitoring system for retrieval accuracy, token usage, and user satisfaction metrics.

•**LLaMA 2 Fine-tuning with QLoRA Optimization**

Parameter-efficient fine-tuning of LLaMA 2-7B using QLoRA with 4-bit quantization.

- Achieved 75% memory reduction via QLoRA (rank 32, alpha 64) with 4-bit NF4 quantization.
- Optimized training using SFTTrainer with gradient accumulation and cosine learning rate scheduling.
- Deployed model by merging LoRA weights with the base model using PEFT.
- Leveraged Hugging Face (Transformers, TRL, BitsAndBytes) with custom dataset preprocessing.

• **AI Posture Coach for Powerlifting**

Real-time powerlifting posture analysis using computer vision and ML.

- Used Python, Streamlit, MediaPipe, OpenCV, scikit-learn, and PyTorch for development.
- Implemented real-time pose estimation and classification models to assess exercise form.
- Provided audio feedback to guide users in correcting posture during workouts.
- Supported both live webcam analysis and video file uploads for flexibility.

TECHNICAL SKILLS AND INTERESTS

Languages: Java, JavaScript/TypeScript, Python, R, LaTeX

Frontend: React, Redux, Tailwind CSS, GSAP

Backend: Express.js, Flask, FastAPI

ML & Data: PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, Pandas, NumPy, Matplotlib

Databases: MongoDB, MySQL, PostgreSQL

DevOps/Cloud: AWS, Docker, Git, Postman

Other Tools: Apache Spark, CUDA, Figma, Adobe Illustrator

Coursework: DSA, OOP, OS, DBMS, Software Engineering

Interests: Web Development, Data Science, Deep Learning, AI

AWARDS AND ACHIEVEMENTS

•**1st Runner-Up – Turboline x IIMS Hackathon** *June 2025*

- Built a real-time powerlifting posture analysis tool using Python, OpenCV, and MediaPipe.
- Awarded 1st Runner-Up among teams from Asia for delivering AI-driven solutions in sports technology, judged by experts from the NFL, NBA, and Fanatics.

•**Winner – IIMS Hackathon Deep Learning Codefest (Best Model)** *June 2024*

- Won "Best Model" for a U-Net-based semantic segmentation solution in PyTorch.
- Delivered custom preprocessing, mask transformation, and visualization for urban scene understanding.