Harsh Parimal Popat

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EDUCATION

Indraprastha Institute of Information Technology (IIIT) Delhi   September 2021 - June 2025
B.Tech, Computer Science and Engineering   CGPA: 7.8/10
- Coursework: Data Structures, Database Management Systems, Object-Oriented Programming, Algorithm Design and Analysis, Operating Systems, Data Science, Distributed Systems, Machine Learning, Natural Language Processing, Mobile Computation, Large Language Models,
- Received 50% tuition scholarship during first - final year based on academic excellence

EXPERIENCE

Adden AI - Amsterdam,North Holland,Netherlands
Senior Backend AI Engineer   July 2025 - Present
Founding Backend AI Engineer   May 2024 - July 2025
- **Spearheaded** the design and development of a LLM backend system - **Smart Audience AI** for audience prediction and cohort creation, for optimizing and improving marketing strategies **conversions by 30%**.
- **Head of Development** for **AI-driven marketing platforms** (**Reporting AI** & **Ask Adden**) unifying ad/CRM data, automating multi-channel reporting, and delivering **LLM-powered conversational insights** for real-time campaign optimization—**"ChatGPT for Marketers"** that **saved hours of manual work** and **improved ROAS**.

Used: Python, FastAPI, SQLAlchemy, PostgreSQL, Git, GCP, Pytorch, OpenAI, Google Ads API, Meta Ads API.

MIDAS Lab, IIIT Delhi, New Delhi
Undergraduate Student Researcher - Supervisor: **Dr. Rajiv Ratn Shah**   August 2023 – December 2024
- Developed and deployed an **audio-first commercial chatbot** (LLMs + RAG with vector DB), boosting **user engagement +30%** and **interaction rate +25%**.
- Built a **Knowledge Graph–LLM reasoning framework** with advanced prompting (CoT/ToT/BoT), improving **accuracy** by **27%**, and enhanced **LVLM geometric reasoning** via VQA-driven multimodal learning for better diagram/scene understanding.

Used: Python, Hugging Face Transformers, Fine-tuning, PyTorch, Tensor, Pandas, Numpy, Langchain, OpenAI API

PUBLICATIONS (All first/co-first author)

***GeoVQA: A Comprehensive Multimodal Geometry Solution for Secondary Education* -** IEEE MIPR 2024 **-** Link
***MoRA: Improving physics reasoning in LLM using mixture of refinement agents* -** IEEE 2025 **-** Link

PROJECTS

Secure Property Rental/Sale Website 🐙   December 2024
Tech Stack: FastAPI, SQLAlchemy, PostgreSQL, Next.js , React, Google OAuth, Tailwind CSS, Solidity(Ethereum)
Developed a **secure web application** for property transactions with distinct buyer and seller interfaces.
- Designed and implemented a secure property platform with FastAPI + PostgreSQL backend and Next.js/React frontend, featuring Google OAuth, role-based dashboards, advanced search, and encrypted ACID transactions with audit logging.
- Built an on-chain contract verification and escrow system using Solidity smart contracts to guarantee funds release only after post-sale checks, improving trust and reducing chargebacks.

WikiEase - Android Mobile Application 🐙   April 2025
Tech Stack: Kotlin, Jetpack Compose, Room, Coroutines, Wikipedia API, OpenAI API
Developed an **Android app** that integrates Wikipedia content with **AI-powered summarization** for enhanced information access.
- Built an intuitive UI for search, article details, favorites using **Kotlin** and **Jetpack Compose** with **MVVM architecture**, integrating **Wikipedia API** and **OpenAI** for article summaries.
- Implemented **location-based suggestions** and **offline caching** with Room database for **low-connectivity usability**.

OTHER PROJECTS

- **Custom Linux/UNIX Shell -** Built a POSIX-compliant Linux shell in C implementing 3 internal and 5 external commands with flag parsing, using fork/exec and system calls for robust process, memory, threading, and file I/O management.
- **VibeTune- Mood-Based Song Classifier and Recommender System :** Developed an ML pipeline using XGBoost to classify user mood from listening history (86.3% accuracy) and built a personalized music recommendation system; recognized as a Top ML Project of the Year.
- **Distributed Raft Consensus System:** Engineered a Raft-based distributed system on GCP using Python, gRPC, Protobuf; implemented persistent state, efficient log replication/leader election for fault tolerance and strong consistency, cutting recovery time 80% and achieving 99.9% uptime.

TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++, C#, Kotlin, Java, JavaScript, MySQL
- **Cloud & DevOps Tools:** Azure, Google Cloud Platform, GitHub, Docker, Linux, Jira, Streamlit, Django, REST
- **ML/DL Libraries & GenAI Tools:** TensorFlow, PyTorch, Scikit-learn, NLTK, Pandas, Numpy, OpenCV ,LangChain

ACHIEVEMENTS AND OTHER EXPERIENCE

- **Co-Founder and Co-ordinator** of International Relation Council IIIT Delhi.
- Solved over **500 competitive problems** in platforms like Codeforces, Leetcodes, etc
- Courses Completed : MLOPs Specialization, GANs Specialization and Cybersecurity Attack and Defense Specialization