

Owais Ansari

+91-9082631318 | owess.dev@gmail.com | [LinkedIn](#) | [GitHub](#) | [LeetCode](#) | [Codeforces](#)

SUMMARY

Backend-focused Software Engineer and AI/Data Science undergraduate with hands-on experience designing high-throughput distributed systems, real-time data pipelines, and multi-agent AI frameworks. Skilled in Python, Java, Node.js, Apache Kafka, C++, and cloud-native technologies (Docker, Kubernetes, AWS). Published researcher in computer vision and NLP with a strong foundation in data structures, algorithms, and system design.

EDUCATION

Dwarkadas J. Sanghvi College of Engineering, Mumbai

CGPA: 9.2/10.0

Bachelor of Technology in Artificial Intelligence and Data Science

Sep 2023 – Jun 2026

EXPERIENCE

Graduate Engineer Trainee

Jun 2026 – Present

Multi Commodity Exchange of India (MCX)

- **C++ ctypes Library:** Designed and implemented a C++ library for binary-to-object data conversion, exposing a ctypes-compatible interface for interoperability with higher-level application code.

Backend Developer Intern

Dec 2024 – Mar 2025

FyreGig | Mumbai (Remote)

- **REST API Optimization:** Refactored Organization member tree-view REST API, reducing response latency by **85%** (10s → 1.5s) by replacing naive recursive queries with a Breadth-First Search traversal, batch processing, and concurrent data retrieval.
- **Distributed Broadcast System:** Designed and implemented a high-throughput real-time notification system using **Apache Kafka**, supporting **10M+ concurrent users** through dynamic topic filtering. Reduced database write load by **70%** via event-streaming optimization; enforced message durability with TTL policies and log compaction.
- **Real-Time Data Pipeline:** Built a **CDC-powered ETL pipeline** using **Debezium + Apache Kafka**, achieving sub-second replication of **1M+ records** from MySQL to ClickHouse. Delivered **99.9% data consistency** for real-time BI dashboards used in loan risk analysis.

RESEARCH

Interpretable Instance Segmentation for Camouflaged Wildlife Detection | ADCIS 2025

- Co-authored a peer-reviewed paper proposing a novel segmentation framework combining **YOLOv8n-seg** and **Explainable AI (XAI)** techniques (Seg-Grad-CAM, LIME) for ecological monitoring of camouflaged wildlife.
- Benchmarked model interpretability and segmentation accuracy against baseline architectures (U-Net, FCN); awarded **Best Presentation** at the conference.

AI-Based Synchronized Video Dubbing | ICT4SD 2025 (Springer)

- Published research on a multilingual video dubbing system integrating **OpenAI Whisper** (ASR), NLP translation pipelines, and text-to-speech synthesis, achieving accurate audio-video timestamp synchronization.
- System supports **10 Indian languages**; hybrid backend built with **Node.js** (API gateway) and **Flask** (AI inference).

PROJECTS

Sentinel: Autonomous Multi-Agent AI System | Python, FastAPI, LangGraph, Federated Learning, RAG [GitHub](#)

- Built a multi-agent orchestration framework using **LangGraph** and **FastAPI**, with intelligent query routing to specialized agents (SQL, Forecasting, RAG, Web Search) based on natural language intent classification.
- Implemented a privacy-preserving **Federated Learning** pipeline using **Flower (flwr)** and **QLoRA**, enabling decentralized LLM fine-tuning (Llama 3, Qwen) on distributed client nodes without exposing sensitive data.
- Developed a **Retrieval-Augmented Generation (RAG)** module with **FAISS** vector stores and HuggingFace embeddings for document-grounded Q&A over internal PDFs and policy files.
- Integrated **Facebook Prophet** for time-series forecasting and a dynamic **SQL agent** for natural language database interaction, enabling automated predictive analytics and report generation.

TECHNICAL SKILLS

Languages: C, C++, Java, Python, JavaScript, TypeScript, SQL, NoSQL

Backend & Frameworks: FastAPI, Node.js, Spring Boot, Flask, REST APIs, Microservices

Data & Streaming: Apache Kafka, Apache Spark, Hadoop, Debezium, ClickHouse, CDC Pipelines

Databases: MySQL, PostgreSQL, MongoDB

AI / ML: PyTorch, HuggingFace, LangChain, LangGraph, FAISS, Federated Learning, RAG, YOLOv8, XAI

Cloud & DevOps: Docker, Kubernetes, AWS, CI/CD, Power BI