MUHAMMAD HAIDER AKBAR

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EDUCATION

Bachelors Degree in Data Science   Aug 2022 - July 2026
FAST NUCES   *Islamabad, Pakistan*

- Technical Skills: TypeScript, JavaScript, Python, C++, React.js, Next.js, Node.js, Express.js, Django, Flask, REST, SQL, PostgreSQL, MongoDB, Redis, Docker, Linux, Git, GitHub, CI/CD, AWS, GCP, n8n, Make, Zapier, Kafka, Spark, Hadoop, TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, Streamlit, Tableau, Power BI

PROFESSIONAL EXPERIENCE

Software Developer   Dec 2025 - Present
FRACK Technologies   *Islamabad, Pakistan*

- Customized **ERP** modules in .NET (C#) to match client-specific workflows.

Software Developer   Sep 2025 - Nov 2025
Epistemy (Remote)   *London, UK*

- Built and deployed a full stack AI tutoring platform in **TypeScript** (Next.js + NestJS) using **Supabase** and **S3**.
- Automated video ingestion and transcription with **Deepgram** ASR, **BullMQ** background jobs and **LangGraph** chunking.
- Implemented **RAG pipelines** over vectorized transcripts to generate summaries, quizzes, and personalized feedback.
- Implemented **JWT** auth, role-based access control, secure sharing, session comparison and **Calendly** scheduling.
- Used **CI/CD** to deploy the monorepo to **Vercel** and leveraged **LangSmith** to trace and monitor AI workflows.

AI Engineer   Feb 2025 - May 2025
DMLytics   *Islamabad, Pakistan*

- Built an orthomosaic pipeline on **GCP** processing **300GB+** of aerial imagery with **GDAL**.
- Implemented EXIF/RTK georeferencing from GPS metadata and **GSD mapping** using **Rasterio**.
- Applied image cleanup and alignment in **OpenCV** to improve tile quality before mosaicking.
- Automated **GeoTIFF** generation with compression/tiling for Pix4D-ready photogrammetry.
- Streamlined post-processing via batch-zipping and cloud-sync for fast GIS integration.

Database Intern   Jul 2024 - Aug 2024
PrimeHRMS   *Faisalabad, Pakistan*

- Built a near real-time analytics warehouse in **Java** backed by a **MySQL** star schema for Metro Cash & Carry.
- Implemented **ETL** and MeshJoin pipelines to stream transactions into dimension and fact tables.
- Wrote optimized SQL for OLAP reporting, revenue trends and product performance.

PROJECTS

JobSwipe. Building a resume analysis and job recommendation platform with a **Flask** API backend, **Next.js** frontend and **Supabase** authentication. Implemented resume parsing and NLP pipelines to extract skills from uploads, then used Sentence Transformers and **FAISS** to match candidates to roles and power a Reels-style swipe UI for browsing jobs. Used **Redis** caching and background **daemon threads** to speed up LLM-based parsing and auto-generate tailored applications for right-swiped jobs.

AI Tutoring Assistant. Developed an AI-powered MVP for a tutoring platform with **FastAPI** backend and **React** frontend. Built transcription pipelines using Deepgram ASR and processed session data with OpenAI LLMs via **LangChain**. Implemented semantic chunking with text-embedding-3-large and stored results in **Chroma** for retrieval and concept tracking. Designed **RAG** based feedback and quiz generation, with session monitoring through **LangSmith** and PDF exporting via Playwright.

MondAI. Developed an AI-driven workflow automation for Monday.com using **n8n**, integrating **LangChain** agents and **Anthropic** Claude Sonnet for natural language command parsing. Built a memory-buffered context system with metadata-driven **GraphQL** calls to **MCP** endpoints, automating board actions like item creation, updates, and status queries. Optimized prompt engineering for error handling, batch operations, and dynamic column mapping, enabling seamless conversational task execution.

RhythmRabbit. Developed a content-based music recommender on a distributed cluster of **Azure** VMs, processing **80GB+** of audio and metadata. Built ETL pipelines with **Librosa** for audio feature extraction and Pandas for metadata fusion, then implemented KNN-based similarity search in PySpark ML for track and playlist recommendations. Designed **Kafka** pipelines to capture user interactions and update dynamic playlists, with indexed retrieval in **MongoDB** and low-latency streaming via **Flask**, supporting **sub-200ms** recommendation responses under concurrent load.

HONORS & AWARDS

- **Winner Hackathon**, HackFest FCS Charity Gala Islamabad
- **Runner Up Hackathon**, Data Quest DSS CUI Tech Fest FA'25
- **Dean's List of Honors**, FAST NUCES Islamabad