

Mohammad Hammad Sarfraz

Full-Stack Product Engineer

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SUMMARY

Full-Stack Product Engineer specializing in AI Engineering, LLMs, and scalable web applications. I bridge complex data science and robust software architecture to take products from idea to production , building Django/FastAPI backends, agentic RAG systems, and async pipelines that drive measurable business impact.

EXPERIENCE

Software Engineer (Full Stack)

May 2025 – Present

Taleemabad – Powered by Orenda • Islamabad, Pakistan

- Built an AI generator and reviewer pipeline for teacher trainers, which generate phenomenal content until it meets the 90% quality criteria
- Implemented backward-compatible manual Django migrations to support business-driven data transitions without down-time.
- Owned the Grand Quiz module end-to-end across the teacher-training Django app and Retool app.
- Restored a broken staging-to-production data pipeline, ensuring data integrity across environments.
- Optimized server RAM usage via AWS S3 presigned URLs, improving application reliability and reducing infrastructure overhead.
- Built an AI-powered feedback pipeline leveraging LLMs to process and evaluate user answers at scale.
- Developed AI question-generation pipelines aligned with metadata specifications provided by stakeholders.
- Developed signal-driven Celery worker pipelines for efficient asynchronous task processing in-app and using external services.
- Designed and optimized complex synchronous REST API GET endpoints, reducing API response payload from 70MB to 6MB.
- Diagnosed and resolved Redis memory spike issues, improving cache efficiency and system stability.
- Designed configurable student sampling UI with subject-driven modes, MCQ locking, 3-state chip toggle scoring, and persistent name state across sessions.
- Integrated Retool applications and features, including debugging data flows and UI bindings.
- Supervised non-technical staff in prototyping software solutions, translating requirements into deliverables.

Tech: Django, PostgreSQL, Redis, Celery, Docker, Retool, Postman, React, DataGrip, GitHub, Jira, AWS S3

Python Developer

May 2024 – Sep 2024

Botnastic Solutions • Islamabad, Pakistan

- Built ETL scripts for data preprocessing and pipeline optimization, improving data ingestion efficiency.
- Conducted exploratory data analysis (EDA) and API-compliant data parsing to surface actionable insights.
- Created data visualizations for analytics dashboards and stakeholder reporting.
- Automated regression and functional testing using Selenium, capturing JSON output for validation.

Tech: Python, Selenium, Pandas

Junior Developer (Internship)

Dec 2023 – Apr 2024

Botnastic Solutions • Islamabad, Pakistan

- Analyzed datasets related to the Prime Minister Youth Program to extract insights supporting program evaluation.
- Performed automated testing on chatbots and web applications using Selenium to validate functionality and UX.

Tech: Python, Selenium

PROJECTS

EvalForge
AI / Eval

GitHub

LLM-as-a-judge for model outputs: upload a dataset, an LLM grades every row, get a shareable report with scores, reasons, and hallucination rate. Auto-routes RAG rows (Ragas) vs plain rows (DeepEval G-Eval).

Tech: FastAPI, DeepEval, Ragas, sentence-transformers, SQLite, Next.js, Docker

SpeedSpeak
Backend / SaaS

Django REST API for interpreters and clients: JWT auth, bookings, bidding, cancellations, OpenAPI docs, chats, notifications and S3 document storage.

Tech: Django, DRF, JWT, FCM, PostgreSQL, AWS S3, Docker

DocuRag
AI / RAG

Live GitHub

Agentic RAG chatbot for your documents: LangGraph pipeline, hybrid search + reranking, OCR, and grounded citations. Built with FastAPI + Groq.

Tech: FastAPI, LangGraph, Llama 3.3 70B, ChromaDB, all-MiniLM-L6-v2, MS-MARCO Cross-Encoder, EasyOCR, Docker

AI-Powered HR Companion System
AI / RAG

Agentic HR assistant with LangChain and Groq: leave and payroll workflows, RAG over policies with ChromaDB, RBAC, and audit logging.

Tech: Python, LangChain, Groq, PostgreSQL, ChromaDB

ShopEase (Final Year Project)
AI / SaaS

SaaS platform generating AI chatbots for e-commerce: order tracking, product search, and personalized recommendations.

Tech: Llama 3.1, LangChain, MySQL, Streamlit

Stock Price Forecasting System
Machine Learning

LSTM time-series model with preprocessing, feature engineering, and evaluation using RMSE and MAE.

Tech: Python, TensorFlow, LSTM

SKILLS

Programming Languages	Python, SQL, PostgreSQL, C/C++, HTML, CSS
Backend & Frameworks	Django, Celery, Redis, REST APIs, Docker, AWS S3, React
AI & Machine Learning	LangChain, LangGraph, Agentic AI, RAG, LLMs, Deep Learning, Scikit-learn, Streamlit
Data	ETL Pipelines, Data Analysis, Data Wrangling, EDA, Data Mining, Web Scraping
Tools	GitHub, Postman, Retool, PGAdmin, DataGrip, VS Code, Cursor, Jupyter Notebook, Jira, Figma

EDUCATION

FAST National University of Computer and Emerging Sciences (NUCES)
Bachelor of Science, Data Science

Aug 2021 – Jun 2025

Relevant coursework: Agentic AI, Deep Learning, Data Mining, Data Warehousing & Business Intelligence, Data Analysis & Visualization.