

MUHAMMAD HASEEB ASLAM

Senior Data Scientist | AI/ML Engineer | Lead AI Product Developer

Gojra, Pakistan | +92-302-7120267 | abdulhaseeb8467@gmail.com

LinkedIn: [linkedin.com/in/muhammad-haseeb-aslam-2930a4205](https://www.linkedin.com/in/muhammad-haseeb-aslam-2930a4205)

PROFESSIONAL SUMMARY

Results-driven Senior Data Scientist and AI/ML Engineer with 5+ years of experience specializing in end-to-end machine learning pipelines, deep learning, generative AI, and large language models (LLMs). Proven track record in developing scalable AI-driven products for healthcare fraud detection, medical image analysis, and e-commerce automation. Expertise in building intelligent AI agents, multi-platform marketplace integrations, and production-grade NLP systems. Skilled in deploying containerized ML models using Docker, FastAPI, and cloud platforms (AWS, Azure, GCP). Published researcher with 2 IEEE conference papers in medical AI. Passionate about leveraging computer vision, NLP, and agentic AI to solve complex real-world business challenges.

TECHNICAL SKILLS

Machine Learning & AI: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Ensemble Methods, XGBoost, Random Forest, SVM, KNN, Feature Engineering, Hyperparameter Tuning, MLOps, A/B Testing

Deep Learning: CNNs, LSTMs, Autoencoders, U-Net, ResNet, DenseNet, Transfer Learning, GANs, Transformers, BERT, GPT, Attention Mechanisms

Generative AI & LLMs: OpenAI GPT, LangChain, RAG (Retrieval-Augmented Generation), Prompt Engineering, Fine-Tuning, AI Agents, Chatbot Development, AI-Generated Text Detection

Computer Vision: Image Classification, Object Detection (YOLO), Semantic Segmentation, OCR, Medical Image Processing, GRAD-CAM, OpenCV

NLP: Named Entity Recognition, Sentiment Analysis, Text Classification, ICD-10 Medical Coding, spaCy, Hugging Face Transformers

Programming: Python, C++, C#, MATLAB, TensorFlow, PyTorch, Keras, Scikit-learn, NumPy, Pandas, FastAPI, Flask

Cloud & DevOps: AWS (SageMaker, EC2, S3, Lambda, IoT), Azure, GCP, Docker, Kubernetes, CI/CD, MLflow, Kubeflow

Data & Tools: SQL, PostgreSQL, MongoDB, Apache Kafka, Git, GitHub, Jupyter Notebook, VS Code, Streamlit

PROFESSIONAL EXPERIENCE

Senior AI Engineer & Consultant | *E-Commerce AI Solutions (SmartTecAnalytics)*

Remote | August 2025 – Present

- Architected and developed a multi-agent AI system for a large-scale e-commerce platform, comprising Customer Support, Sales, and Purchase agents, reducing manual workload by 60%.
- Engineered intelligent AI-powered chatbots for each agent using LangChain and GPT-based LLMs, delivering user-friendly conversational interfaces with 90%+ customer satisfaction scores.
- Integrated real-time data pipelines from 5+ international marketplaces including Back Market, Refurbed, C-Discount, and others, enabling unified product catalog management and price comparison.
- Designed a Customer Support Agent with RAG-based retrieval to resolve 80% of customer queries autonomously, reducing average response time from 12 hours to under 2 minutes.
- Built a Sales Agent leveraging marketplace analytics and product recommendation algorithms to automate lead qualification and upselling, increasing conversion rates by 25%.
- Developed a Purchase Agent automating supplier selection, price negotiation workflows, and inventory tracking across multiple marketplace APIs.
- Implemented end-to-end CI/CD pipelines using Docker and FastAPI for seamless agent deployment, monitoring, and iterative model updates.
- Utilized prompt engineering and fine-tuning techniques to optimize LLM responses for domain-specific e-commerce terminology and customer interactions.

Senior Data Scientist | Lead AI Products | *SeethruTec*

Lahore | September 2023 – August 2025

- Led the development of 8+ AI-driven products in the healthcare sector, managing end-to-end ML pipelines from data collection to production deployment.
- Built an OCR system for medical records using deep learning, enabling precise text extraction and reducing manual processing time by 70%.
- Developed an AI-generated text detection system leveraging LLMs to identify synthetic content in medical records with 95% accuracy.
- Created a plagiarism detection tool to compare medical records, ensuring originality and regulatory compliance in healthcare documentation.
- Designed and deployed Alivia GPT, a virtual assistant chatbot allowing users to create custom AI assistants with file-based contextual responses using RAG architecture.
- Implemented AI-driven X-ray analysis for duplicate medical image detection, improving diagnostic accuracy and reducing redundant records by 45%.
- Developed an AI-based cardiac stenosis detection system analyzing heart X-rays to assist in early diagnosis, achieving 93% sensitivity.
- Built an immersive Apple Vision Pro product for healthcare fraud, waste, and abuse analytics visualization.
- Specialized in healthcare fraud detection across multiple projects targeting fraud, waste, and abuse mitigation in medical billing and insurance claims.

Research Assistant | *Machine Learning and Data Science (MDS) Lab, GIK Institute*

Topi, Pakistan | February 2021 – June 2023

- Conducted cutting-edge research on deep learning-based medical image classification, resulting in 2 published papers at IEEE ICET 2022.
- Developed Heart Disease Prediction Models using ML techniques and feature selection, significantly improving diagnostic accuracy.
- Built Fatty Liver Disease Severity Prediction Models achieving 99% accuracy using SVM and Random Forest classifiers.
- Designed Malware Detection Systems leveraging Mutual Information for feature selection, attaining 98% accuracy with KNN.
- Implemented Deep Learning Models for Hyperspectral Image Segmentation using 3D-CNN and C_UNet architecture.
- Built Intrusion Detection Systems using ML and deep learning to analyze network traffic and detect cybersecurity threats.

KEY PROJECTS

Multi-Agent E-Commerce AI Platform | *LangChain, LLMs, RAG, FastAPI, Docker, Python, REST APIs*

- Built autonomous AI agents (Customer Support, Sales, Purchase) with marketplace integrations (BackMarket, Refurbed, C-Discount) and conversational chatbots for real-time customer interaction.

Medical Image Classification for Multi-Disease Diagnosis | *CNN, ResNet, DenseNet, PyTorch*

- Built a deep learning pipeline classifying diseases from X-rays, CT scans, and MRIs: 96% pneumonia, 94% brain tumor, 91% skin cancer accuracy.
- Implemented ensemble learning (ResNet-50, DenseNet-121, custom CNNs) with GRAD-CAM explainability visualizations.

Real-Time Fraud Detection System | *XGBoost, Neural Networks, Apache Kafka, MLflow*

- Designed a system processing 10,000+ transactions/min with 99.2% accuracy and <0.1% false positive rate.
- Built streaming pipeline using Kafka with MLOps automation including A/B testing via MLflow and Kubeflow.

Intelligent Passenger Estimation System | *YOLO, TensorFlow, Docker, FastAPI*

- Developed real-time passenger estimation achieving 92% accuracy using YOLO-based object detection.
- Deployed via Docker with FastAPI endpoints, integrating geographic mapping for transportation planning.

Healthcare NLP Document Analysis | *BERT, GPT, Transformers, spaCy, Hugging Face*

- Built NLP system for clinical notes analysis with 95% F1-score on medical NER and 92% ICD-10 coding accuracy.

Industrial IoT Anomaly Detection | *LSTM Autoencoders, TensorFlow, AWS IoT*

- Developed unsupervised anomaly detection achieving 94% precision in fault prediction, deployed on AWS with edge computing.

Manufacturing Quality Control System | *CNN, OpenCV, TensorFlow*

- Designed automated QC system with 97% defect detection accuracy, processing 500+ items/min via industrial cameras.
-

EDUCATION

Master of Science (MS) in Computer Science

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Topi, Pakistan | Feb 2021 – Jun 2023 | **CGPA: 3.37**

- Thesis: Classification and Semantic Segmentation of Hyperspectral Images through 3D-CNN and C_UNet Architecture.
- Courses: Machine Learning, Deep Learning, Medical Image Processing, Data Mining, Statistical Image Processing.

Bachelor of Science (BS) in Computer Science

Bahria University | Lahore, Pakistan | Feb 2016 – Feb 2020 | **CGPA: 3.27**

- Final Year Project: Detecting Lung Cancer using Image Processing.
 - Courses: AI, OOP, Data Structures, Applied Image Processing, Software Engineering.
-

PUBLICATIONS

- MH Aslam, SF Hussain. "Prediction of Heart Failure by using Machine Learning and Feature Selection", IEEE ICET 2022. DOI: 10.1109/ICET56601.2022.10004668
 - MH Aslam, SF Hussain, RH Ali. "Predictive analysis on severity of NAFLD using Machine Learning Algorithms", IEEE ICET 2022. DOI: 10.1109/ICET56601.2022.10004660
-

LEADERSHIP & ACTIVITIES

- President, Graduate Student Society at GIK Institute – Led 30+ students, organized international conferences, managed ICPC (Pakistan's largest programming competition), and arranged the "3 Minute Challenge" event.
 - Presented 2 research papers at IEEE ICET 2022 international conference.
-

REFERENCES

Dr. Masroor Hussain | Professor, GIK Institute, Pakistan | hussain@giki.edu.pk

Dr. Muhammad Hanif | Associate Professor, GIK Institute, Pakistan | muhammad.hanif@giki.edu.pk