Haseeb Iqbal

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Education

University of Engineering and Technology Lahore (Lahore, Pakistan)
Bachelor *of Engineering (Hons)* - GPA3.53/4.00 (2021-2025)

IELTS
IELTS Academic (September 2025)
- Overall Band Score: **6.0** (*CEFR Level B2*, British Council, 2024)

Skills

- ***Machine Learning Frameworks:*** Scikit-learn
- ***Deep Learning Frameworks:*** PyTorch, TensorFlow
- ***Generative AI:*** LangChain, Standard RAG, Hybrid RAG, Graph RAG, LangSmith
- ***Vector Databases:*** Pinecone, FAISS, Chroma
- ***LLMs***: Openai, Cohere, Anthropic, Gemini, Groq
- ***Deployment***: Git, Docker, FastAPI (Basics), EC2 Deployment
- ***Agentic AI***: OpenAI Agentic SDK, CrewAI, LangGraph, MCP server Integration
- **Fine-tuning**: Open Source Models (LoRA, QLoRA), Openai Models
- **Soft Skills:** Problem Solving, Research and Experimentation, Effective Communication, Management, Teamwork, Creativity, Networking

Professional Experience

Cybersoft North America Inc. (CSNAINC) (Lahore, Pakistan)
AI Engineer (Hybrid) (June 2025 – Present)

***Provectus Canary Pro (*Revolutionary Real-time contaminant detection Against Hospital Acquired Infections)**
- Developed and Integrated advanced AIunique models with the NASA's e-Nose Sensor technology, enabling real-time detection of airborne contaminants.
- Collaborated with Simpli-Fi Automation to co-develop an AI + IoT healthcare solution significantly reduces the hospital-acquired infections by more than 80% through intelligent smell detection.
- Integrated AI and IoT for 24/7 C-Diff monitoring with cloud-based data reporting.

Pixora
- Pixora is an AI-powered image editing and generation platform built using **OpenAI GPT-4.1** and OpenAI's **image generation tool.**
- Implemented **Prompt Engineering** concepts for optimized system prompts and accurate responses.
- It enables users to easily generate images from single prompt, edit existing visuals, and customize dimensions.

InfiSearch
- Architected multi-agent research assistant powered by **GPT-5** to deliver precise, real-time insights.
- Enables smart knowledge retrieval from PDFs, URLs, and the web using **agentic RAG.**
- Enhanced with **multimodal** intelligence, including image analysis for deeper contextual understanding.

WiseHealth
- AI-powered RAG-based healthcare assistant that analyzes medical report parameters (urine, blood, DNA) and provides detailed analysis, personalized recommendations, and health insights using OpenAI GPT-4.1, Pinecone, and Upstage OCR.
- The system includes specialized chatbots for Blood, Urine, DNA, Workout, Therapist, and Nutrition, allowing users to ask any questions regarding their uploaded reports.
- Additionally, it features a capability to suggest a one-week personalized nutrition and workout plan based on the user's health data.

Data Digger (SMC – PRIVATE LIMITED) (Faisalabad, Pakistan)
AI Engineer (Remote) (September 2024 – May 2025)

VocaLingo

- A real-time **multilingual AI voice chat platform** allowing users to speak in their native language and receive natural, spoken responses.
- Used **GPT-4o Mini** Transcribe and Real-time Preview for real-time conversational AI responses.
- Handled microphone input, speaker output, and real-time audio processing for natural conversation.

Fleet Management System

- Developed an AI-driven recruitment engine that auto screens resume, shortlisted top candidates using **OpenAI GPT-4.1**, reduces manual shortlisting time by 70%, and automates interview scheduling via **Vapi voice bot** integration.
- Developed an AI voice assistant to conduct interviews and evaluate candidate skills for job relevance through LLM analysis. Implemented a **RAG-based support chatbot** to handle customer queries and guide users toward service support.

Retinal vessel segmentation framework

- Developed a **U-Net–based deep learning** framework enhanced with **EfficientNetB0, VGG19, DenseNet169, and ResNet152 encoders**
- Trained and evaluated on a hybrid dataset (FIVES + CHASE DB1) with **data augmentation** to improve robustness and generalization.
- Achieved state-of-the-art performance, with **DenseNet169-UNet** reaching **98.6% accuracy.**

Research Publications

- **H. Iqbal**, S. Khan, A. Tahir and H. Ramzan, '*Convolutional Neural Network Driven Electroencephalogram Characterization for Robust and Efficient Schizophrenia Diagnosis*', *2024 3rd International Conference on Emerging Trends in Electrical, Control, and Telecommunication Engineering (ETECTE)*, Lahore, Pakistan, 2024, pp. 1-5.
- S. Ijaz, S. Khan, Z. Asghar and **H. Iqbal**, *"Detection of Sinus Bradycardia with Electrocardiogram using Machine Learning Techniques,"* *2024 26th* International Multi-Topic Conference (INMIC)*, Karachi,* Pakistan, 2024, pp. 1-5.
- M. A. Mujtaba, M. A. Munir, S. Ali, J. Petrů, T. Ansar, W. Akhlaq, M. Ahmad, **H. Iqbal**, F. Ali, M. N. Bashir, and T. Alexander, *"Using machine learning for air quality prediction and sustainable urban planning,"* *Sustainable Futures*, vol. 10, p. 100981, 2025.
- **H. Iqbal**, A. Ilyas, A. Alamgeer, B. Gillani and F. Abbas, *"Transfer Learning-Based Deep Learning Model with XAI Integration for Breast Cancer Histopathology Classification,"*, *22nd International Bhurban Conference on Applied Sciences & technology (IBCAST) Murree, Pakistan, 2025.* (Accepted)
- **H. Iqbal**, B. Gillani and A.Ilyas, *"Diabetes Detection with Hybrid Deep Learning Models"*, *2025 Horizons of Information Technology and Engineering, Lahore Pakistan, 2025.* (Accepted)
- **H. Iqbal**, H. Ramzan, Muhammad U. Noor, Muhammad T. Saleem, A. Zain, *"Efficient YOLOv11-Based Approach With Dual Feature Learning for Automated Detection of Limb Fractures"*, *5th International Conference on Digital Futures and Transformative Technologies, Islamabad, Pakistan, 2025* (Accepted)

Achievements & Awards

- Presented a study titled "Efficient YOLOv11-Based Approach with Dual-Path Feature Learning for Automated Detection of Limb Fractures" at ***5th International Conference on Digital Futures and Transformative Technologies (ICoDT2025)****, Islamabad, Pakistan, 2025* (2025)
- Presented a study titled "Diabetes Detection with hybrid Deep Learning Models" at *2025* ***Horizons of Information Technology and Engineering (HITE'25)****, Lahore Pakistan, 2025.* (2025)
- Presented a study titled "Transfer Learning-Based Deep Learning Model with XAI Integration for Breast Cancer Histopathology Classification" at ***22nd International Bhurban Conference on Applied Sciences & technology (IBCAST 2025)*** Murree, Pakistan, 2025. (2025)
- **Second Runner Up for Final Year Project in the BIOMED 5.0 competition**, a prestigious European Union–funded program hosted by the University of Engineering and Technology**.** (2025)

- Presented a study titled "Detection of Sinus Bradycardia with Electrocardiogram using Machine Learning Techniques" at the **26th International Conference, (INMIC'24)**, in Salim Habib University, Karachi, Pakistan. (2024)
- Presented research study titled, "Convolutional Neural Network Driven Electroencephalogram Characterization for Robust and Efficient Schizophrenia Diagnosis" **at 3rd International Conference on Emerging Trends in Electrical, Control, and Telecommunication Engineering (ETECTE'25),** Lahore Pakistan. (2024)
- Elected President of Engineering in Medicine and Biology Society (EMBs) UET Lahore. (2024)

Volunteer Activity

- Organized 1st **International Symposium on Emerging Trends and Opportunities in Biomedical Engineering** at Biomedical Engineering Department, sponsored by BIOMED 5.0. (2025)
- Organized the Arduino Workshop at Biomedical Engineering Center UET Lahore, New Campus as a lead Organizer. (2025)