Tahseen Abbas Hyder

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Date of Birth: 12/09/2001   **Nationality**: Pakistani

ABOUT ME

Machine Learning Engineer with extensive experience in developing and deploying AI-driven solutions, specializing in deep learning and computer vision. Skilled in Python, TensorFlow, and model optimization for both edge and cloud environments. Passionate about advancing research in intelligent systems, visual perception, and applied AI, with a strong drive to explore data-centric and model-efficient approaches through graduate studies in Artificial Intelligence.

RESEARCH INTEREST

Artificial Intelligence, Deep Learning, Computer Vision, Multimodal Learning, Model Optimization, Edge AI, and Secure & Robust AI Systems.

EDUCATION

[29/10/2018 – 22/11/2022]

BE COMPUTER SYSTEMS ENGINEERING

QUEST Nawabshah   -   https://quest.edu.pk/

Nawabshah - Pakistan   **CGPA** : 3.94/4.00

[29/09/2016 – 29/09/2018]

INTERMEDIATE

BISE Hyderabad   -   https://www.biseh.edu.pk/

Hala - Pakistan   **GRADE** : A

WORK EXPERIENCE

[06/05/2023 – CURRENT]

Lahore, Remote

MACHINE LEARNING ENGINEER   NexPred Solutions Pvt. Ltd.

- Led and delivered multiple end-to-end AI projects from development to deployment.
- Contributed to building data processing, model training, and evaluation pipelines for various applications.
- Deployed optimized pipelines on edge devices (Jetson, ESP32) and cloud environments for real-world integration.

[06/03/2023 – 05/05/2023]

Lahore, Remote

DATA SCIENCE INTERN   NexPred Solutions Pvt. Ltd.

- Researched the latest AI technologies and their real-world applications for innovative problem-solving.
- Designed, optimized, and maintained data pipelines, improving efficiency and workflow performance.
- Gained hands-on experience in model training, evaluation, and pipeline development across diverse environments.
- Developed a solid understanding of deployment processes on servers and edge devices.

LANGUAGES

MOTHER TONGUE(S) **SINDHI**

OTHER LANGUAGES

ENGLISH	**URDU**
LISTENING B2 READING B2 WRITING B2	LISTENING C2 READING C2 WRITING C2
SPOKEN PRODUCTION B2	SPOKEN PRODUCTION C2
SPOKEN INTERACTION B2	SPOKEN INTERACTION C2

LEVELS: A1 AND A2: BASIC USER; B1 AND B2: INDEPENDENT USER; C1 AND C2: PROFICIENT USER

PROJECTS

FLOWERET – THE FLOWER RECOGNITION SYSTEM [B.E-FYP]

- Built an end-to-end Deep Learning Project and collected a few flower species classes from the surrounding.
- Trained a Custom CNN model and obtained the best results among the different pre-trained models.

AGENTIC AI PLATFORM

- Developed an Agentic AI platform where users can create desired AI agents with a single prompt.
- Created different agents for content analysis, real estate, B2B Markets, Social Media Content, etc.
- Led the team to develop the complete backend pipeline, including database design, endpoint creation, and agentic workflows.

MEDAI CHATBOT

- Built an AI-powered medical writing system automating M11-compliant clinical trial protocol drafting.
- Implemented multi-agent workflow (Planner, Researcher, Writer) using GPT-4, LangChain, and FAISS for evidence-based content generation.
- Deployed a Flask-based platform enabling real-time, citation-backed, and customizable clinical report creation.

SMART VISION SYSTEM FOR ROTIMATIC MACHINE

- Developed an AI-powered system for kicker orientation detection in the ROTIMATIC machine.
- Trained and optimized CNN models, converted them to binary weights, and deployed them on an ESP32-Dev board.
- Achieved 99.5% accuracy and 40+ FPS performance on a resource-constrained edge device.

GESTURE-CONTROLLED AI QUIZ APP

- Curated a high-quality dataset for hand gesture detection and trained a YOLOv8 model, achieving 0.8 mAP accuracy.
- Attained state-of-the-art performance, enabling reliable object detection at distances up to 6-7 meters.
- Converted the model to TFJS and integrated it into a fully functional web-based quiz application for real-time interaction.

SKILLS

TECHNICAL & FIELD SKILLS

- **Programming & Frameworks**: Python, TensorFlow, PyTorch, Scikit-learn, Keras, OpenCV, NumPy, Pandas
- **Machine Learning & AI**: Supervised/Unsupervised Learning, Deep Learning, Computer Vision, Agentic AI, Large Language Models (LLMs), Transformer Architectures
- **Data Science & Analysis:** Data Collection, Processing, Analysis, and Visualization
- **Cloud & Deployment:** AWS, Docker, GitHub Actions, Model Optimization for Edge and Cloud Environments
- **Information Retrieval & RAG Systems:** Retrieval-Augmented Generation (RAG), Vector Databases.

RESEARCH & ANALYTICAL SKILLS

- Research Methodology and Experimental Design
- Model Evaluation and Performance Optimization
- Data-Centric AI Development
- Professional Documentation

SOFT & PROFESSIONAL SKILLS

- Leadership and Team Management
- Communication and Collaboration
- Critical Thinking and Problem Solving
- Project Planning and Time Management

CERTIFICATIONS

SIMPLI-LEARN	**DATA SCIENCE WITH PYTHON	SKILLUP**
JAWAN PAKISTAN CISCO NETWORK ACADEMY	**PCAP-PROGRAMMING ESSENTIALS IN PYTHON**
iNEURON	**DEEP LEARNING COMMUNITY CLASS**

SOCIAL ACTIVITIES

GENERAL SECRETARY - MTH QUEST CHAPTER

- Served as a founding member of the Microsoft Tech Hub – QUEST Chapter, contributing to its establishment and growth.
- Organized technical sessions and workshops to promote innovation and awareness of the Microsoft Learn Student Ambassador (MLSA) program.
- Mentored students toward MLSA selection, helping the chapter become one of the leading tech communities at the university.

HONOURS AND AWARDS

SILVER MEDAL – FIRST POSITION IN DEPARTMENT   Awarding institution QUEST, Nawabshah

Awarded the Silver Medal for securing the First Position in the Department of Computer Systems Engineering during Bachelor's studies, in recognition of outstanding academic performance and excellence throughout the program.

REFERENCES

PROF. DR. MUHAMMAD SULLEMAN MEMON

Quaid-e-Awam University of Engineering, Sciences & Technology, Nawabshah

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