Ishaq Muhammad

Home : Jiho-ro, Jisan Dong, 61445, Gwangju, South Korea

Email: ishaq279@gmail.com **Phone:** (+82) 01049858703

Date of birth: 01/04/1999 **Nationality:** Pakistani

ABOUT ME

A dedicated master's student with a strong background in computer vision, and medical imaging. Experienced in deep learning models, particularly in developing innovative solutions for medical image classification. Skilled in research, and data analysis, with a passion for advancing healthcare technologies through AI. Looking for an opportunity to further explore cutting-edge techniques in medical imaging and contribute to impactful research.

WORK EXPERIENCE

Chosun University

City: Gwangju | **Country:** South Korea

[01/09/2023 – 22/08/2025] **Research Assistant**

Solid foundation in state-of-the-art computer vision and deep learning models

Hands-on experience working with Transformers architectures

Hands-on experience in medical image classification and detection

Skilled in developing and optimizing deep learning architectures for visual recognition

Proficient in Python and PyTorch; capable of adapting models in TensorFlow

Strong experience in collaborative research, benchmarking, and experimental analysis

Contributed significantly to manuscript writing and scientific communication

Excellent academic writing, critical thinking, and problem-solving skills

University of Peshawar

City: Peshawar | **Country:** Pakistan

[01/02/2023 – 08/08/2023] **Research Assistant**

Wireless Sensing Networks

Developing Machine Learning Model for Missing Data Imputation

Anomaly Detection

Python

REBLUE Software Company

City: Peshawar, Pakistan | **Country:** Pakistan

[01/06/2022 – 01/02/2023] **Machine Learning Intern**

Understanding of Machine Learning

Image Processing

Image Classification

Data Preprocessing

Breast Cancer Detection

Python, Scikit-learn, NumPy

EDUCATION AND TRAINING

[01/09/2023 – 22/08/2025]

Masters in Information and Communication Engineering

Chosun University

City: Gwangju | **Country:** South Korea | | **Final grade:** 4.19/4.50 | **Thesis:** A Study on A Dual-Path Deep Learning Framework for Multi-Scale Hip Fracture Classification from X-rays

[01/10/2018 – 24/08/2022]

Bachelor Studies in Computer Science

University of Peshawar uop.edu.pk

Address: Peshawar, 25000, Peshawar, Pakistan | | **Final grade:** CGPA 3.94/4.0 (Distinction) | **Thesis:** Training Agents with Deep Reinforcement Learning using Game AI 3D Environments

LANGUAGE SKILLS

Mother tongue(s): Pashto , Urdu

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Computer Vision | Image Classification | Deep Learning | Machine Learning | Python | Data Preprocessing | Data Visualization | Manuscript Writing | Strong Written and Communication Skills

Frameworks and tools

PyTorch | Tensorflow | Numpy | Huggingface | Transformers | Jupyter Notebook | timm | CUDA | Sci-kit learn | OpenCV

PUBLICATIONS

[2025]

A Hybrid Attention-Driven Deep Learning Model for Osteoporosis Detection in Knees

Reference: I. Muhammad and B. Lee, "A Hybrid Attention-Driven Deep Learning Model for Osteoporosis Detection in Knees," 2025 International Conference on Artificial Intelligence in Information and Communication (ICAIIC), Fukuoka, Japan, 2025, pp. 1043-1046
Authors: Ishaq Muhammad, Bumshik Lee* | **Publisher**: IEEE Xplore

[2025]

Multi-level Feature Enhancement and Dual Attention Mechanisms for Improved Osteoporosis Diagnosis

Reference: Routhu Srinivasa and Ishaq Muhammad et al. Neurocomputing, accepted for publication

[2024]

BONE-Net: A Novel Hybrid Deep Learning Model for Effective Osteoporosis Detection

Reference: Ishaq Muhammad et al., PLOS One, accepted with minor revision

[2025]

A Dual-Path Deep Learning Framework for Multi-Scale Hip Fracture Classification from X-rays

Reference: Ishaq Muhammad et al., Engineering Applications of Artificial Intelligence, In Revision

[2025] **FTAM-Net: A Feature Transformer with Adaptive Multi-Scale Refinement Network for Osteoarthritis Classification**

Reference: Routhu Srinivasa and Ishaq Muhammad et al. Engineering Applications of Artificial Intelligence, In Revision

CONFERENCES AND SEMINARS

[25/04/2025 – 26/04/2025] **Korean Institute of Intelligent Systems, KIIS Spring Conference, 2025** Gumi, South Korea

Oral Presentation

Paper Title: **Dual-EfficientNet Framework for Multi-Scale Gastrointestinal Disease Classification**

[17/10/2024 – 18/10/2024] **The 34th Artificial Intelligence Signal Processing Conference, 2024**
Seoul, South Korea

Poster Presentation

Paper Title: **A Deep Learning Approach for Effective Osteoporosis Detection in Knees**

[19/06/2024 – 22/06/2024] **Korea Institute of Communications and Information Sciences, KICS Summer Conference, 2024**
Jeju-Du, South Korea

Oral Presentation

Paper Title: **Classification of Bone Abnormalities in MURA**

[19/04/2024 – 21/04/2024] **Korea Institute of Intelligent Systems, KIIS Spring Conference, 2024** Seoul, South Korea

Oral Presentation

Paper Title: **Medical Image Segmentation using Diffusion Models**

AWARDS

Best Paper Award, IEIE 34th AI Conference, Seoul, South Korea

Distinction Certificate for maintaining highest CGPA

Distinction Certificate for Inter Semester AI quiz Competition