

Muhammad Bilal Shabbir

CONTACT

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WORK EXPERIENCE

15/01/2024 – 31/07/2024

Machine Learning Engineer Soliton Technologies

- Leveraging LLM, RAG, and generative models to fuse clinical domain-specific knowledge
- Built Text to EHR data retrieval using Open Source LLM (Mistral, Mixtral, LLaMA3) and Langchain for Doctors
- Built Patient Readmitting Text System utilizing RAG and GPT4 using Langchain

01/07/2021 – 30/12/2023 Islamabad, Pakistan

Research Assistant/Associate Computational Biology Research Lab (CBRL)

- Proposed a novel architecture Multi-Scale Feature Attention GAN (MS-FAG) to solve IHC to IHC staining for HER2 expression identification for early breast cancer diagnosis
- Proposed novel Label Mix Augmentation to identify cancer from microscopic images of cancer in a low cost setup.
- Secured 2nd position On Covid-19, Pneumonia Classification Challenge on Chest X-rays Explainability
- Developed deep learning novel pipeline for MGMT-Prompter Classification from 3D-Brain relation between genomic-pathological domains
- Developed deep learning pipeline for breast cancer classification on Whole Slide Images

01/06/2022 – 01/07/2023 Islamabad, Pakistan

Backend Python Developer (Part Time) (Remote) SLOSH AI

- Designed and engineered a cutting-edge teaching and diagnosis portal for Raiq, a private company, integrating technologies such as Django, Cornerstone3D, TypeScript, and AWS, empowered medical professionals to analyze diverse medical imaging diagnoses, including scans.
- Developed a 3D rendering solution for MRI and corresponding PET dicoms using Cornerstone3D and Docker
- Developed a flask application for Covid and Pneumonia Identification

28/08/2021 – 01/01/2022

EXTERNAL INSTRUCTOR NATIONAL UNIVERSITY OF COMPUTER & EMERGENCY

- Taught Programming Fundamentals Lab to 50+ students
- Engaged with students in office hours and class activities
- Evaluated marks and grades of students

EDUCATION AND TRAINING

31/07/2017 – 30/06/2021 Islamabad, Pakistan

Computer Science, Bachelors of Science National University of Computer Sciences (NUCES) - FAST

Deep Learning, Image Processing, Data Structures, Probability & Statistics

Address A.K Brohi Road, H-11, Islamabad, Pakistan | **Website** <https://www.nu.edu.pk> | **Final grade** B

Thesis Blind Assistant: Obstacle Avoidance and Person Identification for Blind People

DIGITAL SKILLS

TECHNICAL SKILLS

Tensorflow, Keras, Pytorch, Numpy, Matplotlib, scikit-learn | Deep Learning | Back-end (Flask, Django) | Gradle, CI, Jenkins, JIRA, Docker | Computer Vision | NLP | Machine Learning | LLM

PUBLICATIONS

2024

Low-Cost Histopathological Mitosis Detection for Microscope-acquired Images

Shabbir, Bilal, et al. "Low-Cost Histopathological Mitosis Detection for Microscope-acquired Images." *Translational Science Proceedings 2024* (2024): 409.

2024

BlindEye: Blind Assistance Using Deep Learning

Shabbir, Bilal, et al. "BlindEye: Blind Assistance Using Deep Learning." *International Conference on Intelligent and Data Analytics*. Cham: Springer Nature Switzerland, 2023.

2021

PRNet: Progressive Resolution based Network for Radiograph based disease classification

Ahmed, Salman, Haasha bin Atif, Muhammad Bilal Shabbir, and Hammad Naveed. "PRNet: Progressive Resolution based Network for Radiograph based disease classification." In *2021 Ethics and Explainability for Responsible Data Science (EE-RDS)*, pp. 1-5. IEEE, 2021.

HONOURS AND AWARDS

31/07/2021 National University of Computer and Emerging Sciences (NUCES) - FAST

Cum Laude

Computer Science, Bachelors of Science Degree Award

30/11/2020 National University of Computer and Emerging Sciences (NUCES) - FAST

Semester Gold Medalist

VOLUNTEERING

31/07/2019 – 31/07/2020 National University Computing Society by NUCES-FAST

Head of Public Relations

1. Led students to develop relations with different institutes by conducting events, competitions, and meetings
2. Led teams to participate in ICPC Competition and one team got 2nd position in regional competitions

01/02/2019 – 30/04/2019 Nascon 2019 by NUCES-FAST

Backend Developer

1. Developed event website and provided multiple services for booking, navigating and evaluating performance
2. Engaged event users by introducing different activities on website

RESEARCH FUNDING

Not Applicable

AFFILIATIONS

Not Applicable

NON-UNIVERSITY PROFESSIONAL ACTIVITIES

Not Applicable

MILITARY/DEFENSE SERVICE

Not Applicable