



Shams ur Rehman

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ABOUT ME

Accomplished, knowledgeable Computer Science Student looking forward to earn degree in Integrated PhD Program. Able to contribute knowledge and experience to grow my professional knowledge and examine the research areas of Artificial Intelligence and Medical Imaging using machine learning and deep Learning. A passionate research assistant and s 2+ years of experience in leading projects, seeking to use development and other key skills to enhance my research experience.

Google Scholar:

<https://scholar.google.com/citations?hl=en&user=id9tg3wAAAAJ>

ResearchGate: <https://www.researchgate.net/profile/Shams-Rehman-14>

WORK EXPERIENCE

15/04/2023 – CURRENT Islamabad, Pakistan

SENIOR LAB ENGINEER AND RESEARCHER NATIONAL UNIVERSITY OF TECHNOLOGY

As a Senior Lab Engineer and Researcher, the main activities and responsibilities typically include:

Research and Development:

1. Project Design and Implementation:

- Lead and design research projects related to specific areas of interest or lab focus, such as machine learning, deep learning, computer vision, etc.
- Develop innovative methodologies, algorithms, and models to advance the research objectives.

2. Data Collection and Analysis:

- Oversee data acquisition, ensuring the collection of high-quality and relevant data for experiments.
- Perform advanced data analysis and interpret results to draw meaningful conclusions.
- Utilize statistical methods and machine learning techniques for data modeling.

3. Technical Writing and Publication:

- Prepare research papers, reports, and presentations to document findings and contribute to scientific knowledge.
- Submit research work to reputable journals and conferences.
- Review and edit publications to ensure accuracy and clarity.

Laboratory Management:

1. Lab Equipment and Software Maintenance:

- Maintain and calibrate lab equipment, ensuring all tools are functioning correctly and safely.
- Manage the installation, configuration, and troubleshooting of software tools and platforms used in research.

2. Supervision and Training:

- Mentor junior engineers, researchers, and students, providing guidance on experimental procedures and research methodologies.
- Conduct training sessions on new technologies, software, and research techniques.

3. Resource Management:

- Manage laboratory resources, including budget allocation, procurement of equipment, and inventory management.
- Ensure the lab operates efficiently, adhering to safety protocols and regulatory requirements.

Collaboration and Communication:

1. Interdisciplinary Collaboration:

- Work closely with other researchers, engineers, and departments to collaborate on interdisciplinary projects.
- Engage with external partners, such as academic institutions, industry stakeholders, and funding bodies.

2. Proposal Writing and Grant Acquisition:

- Write research proposals to secure funding from various sources.
- Manage grant applications and ensure compliance with funding requirements.

3. Presentations and Conferences:

- Present research findings at conferences, seminars, and workshops.
- Represent the lab and institution in academic and industry forums.

Innovation and Continuous Improvement:

1. Keeping Up with Technological Advancements:

- Stay updated on the latest trends and advancements in the field.
- Explore new technologies and methodologies to integrate into the lab's research processes.

2. Process Improvement:

- Continuously evaluate lab processes and workflows to identify areas for improvement.
- Implement changes to enhance efficiency, accuracy, and innovation in research.

EDUCATION AND TRAINING

14/09/2024 – CURRENT Islamabad, Pakistan

PHD COMPUTER SCIENCE(CONTINUE) Hitec University Taxila

Website www.hitecuni.edu.pk | Level in EQF EQF level 1

08/09/2021 – 09/09/2023 Islamabad, Pakistan

MASTER OF COMPUTER SCIENCE Hitec University Taxila

Website www.hitecuni.edu.pk | Level in EQF EQF level 1

12/09/2017 – 12/09/2021 Islamabad, Pakistan

BACHELOR OF COMPUTER SCIENCE Hitec University Taxila

Website www.hitecuni.edu.pk | Level in EQF EQF level 1

11/08/2015 – 15/10/2015 Layyah, Pakistan

FSC Dg Khan Board

Level in EQF EQF level 1

13/09/2013 – 14/09/2015 Layyah, Pakistan

MATRIC Dg Khan Board

Level in EQF EQF level 1

LANGUAGE SKILLS

Mother tongue(s): **SARIAKI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	A1	A2	A2	A1	A1
URDU	A1	A1	A1	A1	A1

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

DIGITAL SKILLS

Microsoft Powerpoint | Microsoft Excel | Social Media

RESEARCH PUBLICATIONS

Research Publications

1. Rehman, Shams ur, Muhamamd Attique Khan, Anum Masood, Nouf Abdullah Almujaally, Jamel Baili, Majed Alhaisoni, Usman Tariq, and Yu-Dong Zhang. "BRMI-Net: Deep Learning Features and Flower Pollination-Controlled Regula Falsi-Based Feature Selection Framework for Breast Cancer Recognition in Mammography Images." *Diagnostics* 13, no. 9 (2023): 1618.

2. Albarakati, Hussain Mubarak, Shams ur Rehman, Muhammad Attique Khan, Ameer Hamza, Junaid Aftab, Areej Alasiry, Mehrez Marzougui, Michele Nappi, and Yunyong Nam. "A Unified Super-Resolution Framework of Remote Sensing Satellite Images Classification based on Information Fusion of Novel Deep Convolutional Neural Network Architectures." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (2024)
3. Hamza, Ameer, Muhammad Attique Khan, Shams Ur Rehman, Hussain Mobarak Albarakati, Roobaea Alroobaea, Abdullah M. Baqasah, Majed Alhaisoni, and Anum Masood. "An integrated parallel inner deep learning models information fusion with Bayesian optimization for land scene classification in satellite images." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (2023).
4. Hamza, Ameer, Muhammad Attique Khan, Shams Ur Rehman, Mohammed Al-Khalidi, Ahmed Ibrahim Alzahrani, Nasser Alalwan, and Anum Masood. "A novel bottleneck residual and self-attention fusion-assisted architecture for land use recognition in remote sensing images." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (2024).
5. Aftab, Junaid, Muhammad Attique Khan, Sobia Arshad, Shams ur Rehman, Dina Abdulaziz AlHammedi, and Yunyoung Nam. "Artificial intelligence based classification and prediction of medical imaging using a novel framework of inverted and self-attention deep neural network architecture." *Scientific Reports* 15, no. 1 (2025): 8724.
6. Rehman, Shams Ur, Saba Anwer, Junaid Aftab, Ameer Hamza, and Ammad Ahmed. "An Optimized Novel Hybrid CNN-Vision Transformer (ViT) Architecture for Brain Tumor Classification." In *2024 3rd International Conference on Emerging Trends in Electrical, Control, and Telecommunication Engineering (ETECTE)*, pp. 1-6. IEEE, 2024.

TECHNICAL SKILLS

Technical Skills

Languages: Matlab, python, C/C++/C#, JavaScript, HTML/CSS, PHP

Developer Tools: Google Colab, Eclipse IDE, VS Code, MATLAB, Visual Studio, PyCharm, Visual Paradigm

Research Skills: CNN models (MobileNet, XceptionNet, VGG16, VGG Small), Neural Network Architectures, Regression (Linear, Logistic, Polynomial, Random Forest), Classification (K-NN, SVM, Random Forest, Naive Bayes), Clustering (K-means, Hierarchical), Deep Learning, Gradient Boosting, Data Cleaning, Data Visualization

RESEARCH PROJECTS

Research Projects

- Breast Cancer Classification using deep learning
- Covid-19 Classification using deep Learning and Explainable AI
- Conference Paper: Finding influential users in social networks based on novel features & link-based analysis using Artificial Intelligence
- Conference Paper: AdderNet: Do We Really Need Multiplications in Deep Learning?
- Breast Cancer Classification using KAU-BCMD data set using deep Learning

PROJECTS

Projects

COVID-19 Detection through Chest X-Ray based on CNN: A model based on Convolutional Neural Network for detecting COVID-19 patients from Chest X-Rays.

· CNN and Matlab based Model

· Dataset from Kaggle

Be on Time android Based app using Flutter.

FYP Management System | Python

· Developed a Software for submission of FYP data
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RESEARCH INTERESTS

Research Interests

- Artificial Intelligence
- Machine Learning
- Deep Learning
- Medical Imaging
- Computer Vision

ACHIEVEMENTS

Achievements

·Received AMS Scholarship for Academic Achievements throughout Bachelor's Degree

·Top 25 Position holder in Anti-Drug Art Competition throughout Pakistan

·Heavy Industries Taxila Intern 2019

·Top 25 Position holder in Anti-Drug Art Competition throughout Pakistan

·Certificate of Cyber Security Wing in Wafaqi Mohtasib Secretariat Islamabad

·Certificate of Participation in MS Office 2010

● KEY COMPETENCE

Key Competence

- Good communication skill with good command on English language.
- Willing and able to accept the responsibility with time.
- Proficient in Computer Programming and documentation skills.
- Proficient in software implementation of mathematical formulas/ models.
- Ability to use knowledge and skills sensibly in order to solve different problems.
- Hobbyist Software and Web Application developer.

● REFERENCES

References

DR M u h a m m a d A t t i q u e Khan

Assistant Professor, Member IEEE Department of Computer Science, HITEC University Taxila, 47080, Pakistan PostDoc Researcher, Department of Informatics, University of Leicester, UK

Google Scholar: [https://scholar.google.com.pk/citations?](https://scholar.google.com.pk/citations?view_op=list_works&hl=en&hl=en&user=4_i4ni4AAAAJ&sortby=pubdate)

[view_op=list_works&hl=en&hl=en&user=4_i4ni4AAAAJ&sortby=pubdate](https://scholar.google.com.pk/citations?view_op=list_works&hl=en&hl=en&user=4_i4ni4AAAAJ&sortby=pubdate) **ResearchGate:** <https://www.researchgate.net/profile/Muhammad-Khan-730>

Top 2% Scientists in world rankings of 2022

<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4?fbclid=IwAR2QORvUwsDIOc8MwFst-sQPAgptVJa2u15vWCAvBGmKWvzrSyGepCtcUw>

Top 2% Scientists in world rankings of 2021

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Top Computer Science Scientists in Pakistan (2021)

<https://research.com/scientists-rankings/computer-science/pk> <https://research.com/u/muhammad-attique-khan>