AHMED IQBAL

Personal Information

Born:	3rd Feb, 1989, Mianwali	**Marital Status:**	Married
Languages	Urdu, English	**Mobile:**	0300-8955236
E-mail:	ahmedeqbal@gmail.com	**Website:**	http://ahmediqbal.com

Google Scholar: https://scholar.google.com.pk/citations?hl=en&user=tqNZBnMAAAAJ
ResearchGate: https://www.researchgate.net/profile/Ahmed-Iqbal-3

Brief Introduction

Ahmed Iqbal received the MIT(CS) and MS(CS) degrees from the Virtual University of Pakistan, Lahore, in 2016 and 2019, respectively. He is currently pursuing his Ph.D. degree at the Dept. of Computer Science, COMSATS University Islamabad, under the supervision of Professor Dr. Muhammad Sharif Malik. My experience includes working with large datasets, developing predictive models, and deploying machine learning solutions to improve business operations and drive growth. I am proficient in programming languages such as Python, R, and SQL, and have experience with deep learning frameworks such as TensorFlow and PyTorch. As a team player with strong communication skills, I collaborate effectively with cross-functional teams to identify business needs, design experiments, and develop solutions. I am passionate about staying up-to-date with the latest developments in the field of machine learning and am constantly seeking new ways to apply these techniques to solve challenging problems. I am is currently working as Research Associate in the Predictive Analytics Lab under National Center for Big Data & Cloud Computing (NCBC)

Academic Qualification

COMSATS University Islamabad — **Islamabad, Punjab**

- Doctor of Philosophy in Computer Science, CGPA 4.0/3.84 — 2020 – 2023

Virtual University of Pakistan — **Lahore, Punjab**

- Master of Science in Computer Science, CGPA 4.0/3.71 — 2016 – 2019
- Master of Information Technology; CGPA 4.0/3.57 — 2014 – 2016

Project and Thesis

- "An Efficient Scheme for Segmentation and Classification of Breast Cancer Images"

  Ph.D. Thesis oral defense is expected in mid-2023, Department of Computer Science, COMSATS University Islamabad

- SDPM "An Effective Model for Software Defect Prediction Using Artificial Neural Networks"

  MS (CS). Thesis submitted to the Department of Computer Science, Virtual University of Pakistan Lahore.

- Urdu Stemmer (*Urdu Stemmer is a Java-based tool that provides an interface to extract the stem, prefix, and postfix from Urdu word*).

  MIT. Project submitted to the Department of Computer Science, Virtual University of Pakistan Lahore.

Teaching Interests

- Introduction to Programming
- Object-Oriented Programming
- Software Engineering
- Machine learning
- Artificial Neural Networks
- Image processing

Job Experience

2021 – Present **Research Associate,** "*Predictive Analytics Lab under National Center for Big Data & Cloud Computing (NCBC)"* URL: https://web.lums.edu.pk/~ncbc/

Job description: National Center in Big Data and Cloud Computing (NCBC) aims to become the leading hub of innovation, scientific research, knowledge transfer to the local economy, and training in the area of data analytics, cloud computing, and data science. Under the NCBC umbrella, the Predictive Analytics Lab aims to identify factors of the child mortality rate in Sindh, Pakistan. Which factor influences lady health worker performance, and how to improve it. My primary task is to develop a deep learning-based Tuberculous detection solution for the Sindh healthcare department. My porotype idea is also published in Tuberculous Journal (https://doi.org/10.1016/j.tube.2022.102234). Our proposed solution is developed in Django framework, PostgreSQL, Scikit-Learn, Tensorflow, and various supportive libraries.

2018 – 2020 **Lecturer – Computer Science**, "*Pak Pearl College, Mianwali*"

Job description: Serve as Full-time Lecturer; taught Introduction to Computing and Database Management Systems.

2014 – 2017 **Technical Content Writer**, "TechnoBB.com, Islamabad",

Job description: TechnoBB.com is a technology web-blog to cover various technological news. My task was to identify windows, android, and apple gadget-related issues and writing a solutions for our valuable readers. I have written hundreds of technical articles with practical solutions.

2011 – 2013 **Web Application Developer**, "*PakBase Technologies, Rawalpindi*"

Job description: PakBase Technologies is a Pakistan-based leading web hosting company. Their primary objective is to provide services in Linux-based and windows-based servers. My task was to develop WordPress, Joomla, and Python Django-based web solutions. My notable project was to develop an MP3 Editor in a web-based Django project. All tasks were related to PHP, MySQL, SQLite, Python, and Django.

2009 – 2010 **Front-end Developer**, "*Bir Al Sabia Technologies, Rawalpindi*"

Job description: Bir Al Sabia Technologies is a leading Dubai-based IT company. Their primary objective is to provide services in web-based solutions and client management systems. My task was to develop a unique Front-end interface for the Taleem-e-Quran website, which provides Quran-teaching services to hundreds of overseas students. All tasks were related to Adobe Photoshop, HTML, CSS, JavaScript, PHP, and MySQL server.

Undergraduate Projects Supervisions

- **BS (CS) students**

1. Asim Qamar (1880145), Muhammad Sayyam Khan (1880126), "**Diagnosis of Tuberculosis by using Deep Learning Convolutional Neural Network**", 2021, SZABIST, Islamabad
2. Saqib Amin (1912273), Sajjad Karim (1912272), Zain Habib (1912283) "**Diagnosis of Pneumonia by using DL CNN**", 2023, SZABIST, Islamabad

- **BS (SE) students**

3. Nauman Iftikhar (1812134), Hira Adnan (1812115), "**A Robust Scheme for Detection of Lung Diseases Using Deep Learning**", 2021, SZABIST, Islamabad

Publications

Citations: 325+, **Impact Factor**: 50+

Google Scholar: https://scholar.google.com.pk/citations?hl=en&user=tqNZBnMAAAAJ

Predictive Analytics Lab research papers:

[1] **Ahmed iqbal,** Muhammad Usman, Zohair Ahmed, "An efficient deep learning-based framework for Tuberculosis detection using chest X-ray images", Tuberculosis, **(Impact Factor: 2.973)** https://doi.org/10.1016/j.tube.2022.102234

[2] **Ahmed iqbal,** Muhammad Usman, Zohair Ahmed, "Tuberculosis chest X-ray detection using CNN-based hybrid segmentation and classification approach", Biomedical Signal Processing and Control, **(Impact Factor: 5.076)** https://doi.org/10.1016/j.bspc.2023.104667

Ph.D (CS) research papers:

[3] **Ahmed iqbal,** Muhammad Sharif, " PDF-UNet: A semi-supervised method for segmentation of breast tumor images using a U-shaped pyramid-dilated network", Expert Systems with Applications, **(Impact Factor: 8.665)** https://doi.org/10.1016/j.eswa.2023.119718

[4] **Ahmed iqbal,** Muhammad Sharif, "BTS-ST: Swin Transformer Network for Segmentation and Classification of Multimodality Breast cancer images", Knowledge-Based Systems, **(Impact Factor: 8.139)** https://doi.org/10.1016/j.knosys.2023.110393

[5] **Ahmed iqbal,** Muhammad Sharif, "MDA-Net: Multiscale dual attention-based network for segmentation of lesion in breast ultrasound images", Journal of King Saud University - Computer and Information Sciences, **(Impact Factor: 13.473)** https://doi.org/10.1016/j.jksuci.2021.10.002

[6] **Ahmed Iqbal,** Muhammad Sharif, Muhammad Attique Khan, Wasif Nisar & Majed Alhaisoni, "FF-UNet: A U-shaped deep convolutional neural network for multimodal biomedical image segmentation", Cognitive Computation, **(Impact Factor: 4.890)** https://doi.org/10.1007/s12559-022-10038-y

[7] **Ahmed iqbal,** Muhammad Sharif, Mussarat Yasmin, Mudassar Raza, Shabib Aftab, "A survey on generative adversarial networks applications in the medical image segmentations", International Journal of Multimedia Information Retrieval, **(Impact Factor: 2.553)** https://doi.org/10.1007/s13735-022-00240-x

[8] **Ahmed iqbal,** Muhammad Sharif, "MET-NET: Memory-efficient transformer for automated segmentation and classification of breast tumor images", Journal of King Saud University - Computer and Information Sciences, **(Impact Factor: 8.839) (Under review)**

MS (CS) research papers:

[9] Mohammad Sh. Daoud, Shabib Aftab, Munir Ahmad , Muhammad Adnan Khan, **Ahmed Iqbal**, Sagheer Abbas, Muhammad Iqbal and Baha Ihnaini "Machine Learning Empowered Software Defect Prediction System", Intelligent Automation and Soft Computing, **(Impact Factor: 1.647)** http://dx.doi.org/10.32604/iasc.2022.020362

[10] **Ahmed Iqbal**, Shabib Aftab, Umair Ali, Zahid Nawaz, Laraib Sana, Munir Ahmad, and Arif Husen, "Performance Analysis of Machine Learning Techniques on Software Defect Prediction using NASA Datasets," International Journal of Advanced Computer Science and Applications, Vol. 10, No. 5, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.14569/IJACSA.2019.0100538

[11] Shabib Aftab, Zahid Nawaz, Faiza Anwer, Munir Ahmad, **Ahmed Iqbal**, and Muhammad Salman Bashir, "Using FDD for Small Project: An Empirical Case Study," International Journal of Advanced Computer Science and Applications, Vol. 10, No. 3, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.14569/IJACSA.2019.0100319

[12] Muhammad Ibrahim, Munir Ahmad Shabib Aftab, **Ahmed Iqbal**, Bilal Shoaib Khan, Muhammad Iqbal, Baha Najim Salman Ihnaini, Nouh Sabri Elmitwally, "Presenting and Evaluating Scaled Extreme Programming Process Model," International Journal of Advanced Computer Science and Applications, Vol. 11, No. 11, 2020. **(ISI, Scopus Indexed)** http://dx.doi.org/10.14569/IJACSA.2020.0111121

[13] Muhammad Ibrahim, Shabib Aftab, Birra Bakhtawar, Munir Ahmad, **Ahmed Iqbal**, Nauman Aziz, Muhammad Sheraz Javeid, Baha Najim Salman Ihnaini, "Exploring the Agile Family: A Survey" IJCSNS International Journal of Computer Science and Network Security, Vol. 20, No. 10, PP. 163–179, 2020. **(ISI, Scopus Indexed)** http://dx.doi.org/10.22937/IJCSNS.2020.20.10.22

[14] **Ahmed Iqbal** and Shabib Aftab, "A Feed-Forward and Pattern Recognition ANN Model for Network Intrusion Detection," International Journal of Computer Network and Information Security, Vol. 11, No. 4, PP. 19–25, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijcnis.2019.04.03

[15] **Ahmed Iqbal**, Shabib Aftab, Israr Ullah, Muhammad Anwaar Saeed, and Arif Husen, "A Classification Framework to Detect DoS Attacks," International Journal of Computer Network and Information Security, Vol. 11, No. 9, PP. 40–47, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijcnis.2019.09.05

[16] **Ahmed Iqbal,** Shabib Aftab, Israr Ullah, Muhammad Salman Bashir, and Muhammad Anwaar Saeed, "A Feature Selection based Ensemble Classification Framework for Software Defect Prediction," International Journal of Modern Education and Computer Science, Vol. 11, No. 9, PP. 54–64, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijmecs.2019.09.06

[17] **Ahmed Iqbal,** Shabib Aftab, and Faseeha Matloob, "Performance Analysis of Resampling Techniques on Class Imbalance Issue in Software Defect Prediction," International Journal of Information Technology and Computer Science, Vol. 11, No. 11, PP. 44–53, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijitcs.2019.11.05

[18] **Ahmed Iqbal**, and Shabib Aftab, "A Classification Framework for Software Defect Prediction using Multi-Filter Feature Selection Technique and MLP," International Journal of Modern Education and Computer Science, Vol. 12, No. 1, PP. 18–25, 2020. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijmecs.2020.01.03

[19] **Ahmed Iqbal**, and Shabib Aftab, "Prediction of Defect Prone Software Modules using MLP based Ensemble Techniques," International Journal of Information Technology and Computer Science, Vol. 12, No. 1, PP. 18–25, 2020. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijitcs.2020.03.04

[20] Faseeha Matloob, Shabib Aftab, and **Ahmed Iqbal**, "A Framework for Software Defect Prediction using Feature Selection and Ensemble Learning Techniques," International Journal of Modern Education and Computer Science, Vol. 11, No. 12, PP. 1–7, 2019. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijmecs.2019.12.01

[21] Umair Ali, Shabib Aftab, **Ahmed Iqbal**, Zahid Nawaz, Muhammad Salman Bashir, Muhammad Anwaar Saeed, "Software Defect Prediction Using Variant based Ensemble Learning and Feature Selection Techniques," International Journal of Modern Education and Computer Science, Vol. 12, No. 5, PP. 29–40, 2020. **(ISI, Scopus Indexed)** http://dx.doi.org/10.5815/ijmecs.2020.05.03

Active Reviewer

- Computer Systems Science and Engineering - Tech Science Press
- IEEE Transactions on Neural Networks and Learning Systems
- Computers, Materials & Continua - Tech Science Press
- Human-centric Computing and Information Sciences
- Artificial Intelligence Review – Springer
- The Visual Computer - Springer
- IEEE Network Magazine - IEEE
- Brain-X – Wiley Journal

Programming Skills

Programming

- Python (Django, *TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, OpenCV*)
- PHP (*CodeIgniter framework, WordPress, Joomla*)
- MATLAB (*Computer vision, Image pre-processing, and Machine learning*)

Data Science

- Probability & statistics
- Complex algorithm analysis
- Feature selection & reduction
- Data visualization using Highcharts
- Machine learning
- Deep learning
- Computer vision

Front-end

HTML, CSS, JavaScript, jQuery, AJAX, Bootstrap

Databases

MySQL, PostgreSQL, MS SQL Server

Diploma and Certifications

2011 PHP Developer, Expert Rating (*Online Certification*)

2009 HTML Developer, W3Schools (*Online Certification*)

2004 Diploma in Graphic Design, Quaid-e-Azam College of Computer Science

Achievement and Records

- GAT Subjective passed, (17, Nov 2019). (Graduate Assessment test for Ph.D. (CS)
- Award of Laptop under Prime Minister's National Laptop Scheme – 2017
- Jamia Akbaria - Islamic Quiz competition winner - 2005
- Travel Abroad: *Thailand, Malaysia, Singapore, and Saudi Arabia*

References

[1] Dr. Muhammad Sharif (*Professor*)
Department of Computer Science, COMSATS University, Islamabad
Mobile: 0333-5188872
E-mail: *sharif@ciitwah.edu.pk*

[2] Dr. Muhammad Usman (*Associate Dean – CS*)
Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Islamabad Campus
Mobile: 0321-5122802
E-mail: *dr.usman@szabist-isb.edu.pk*

[3] Mr. Shabib Aftab (*Senior Lecturer*)
Department of Computer Science, Virtual University of Pakistan Lahore.
Mobile: 0332-4174891
E-mail: *shabib.aftab@vu.edu.pk*

I hereby declare that; the above furnished information is true and correct to the best of my knowledge.