Ihtisham Ul Haq

Date of birth: 20/08/1997 | **Nationality:** Pakistani | **Gender:** Male |

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ABOUT ME

I am a motivated and innovative Mechatronics Engineer with a strong interest in using the potential of Artificial Intelligence to the field of healthcare. I bring a unique blend of technical skills and research expertise to the development of engineering and healthcare, as well as a good academic background and hands-on experience. My experience in Mechatronics Engineering has given me a thorough understanding of the field's interdisciplinary character, which includes mechanical, electrical, and software engineering. Throughout my academic career, I continually tried to succeed in both theoretical and practical knowledge, establishing myself as a dynamic problem solver. My interest in artificial intelligence in healthcare arises from a strong belief in its potential to transform patient care, diagnostics, and treatment.

EDUCATION AND TRAINING

MATRICULATION(SSC) Quaid-e-Azam Public School **(2012 –2013)**

Website http://qpscs.edu.pk/

INTERMEDIATE IN SCIENCE(HSSC) Islamia College Peshawar Pakistan (2013- 2015)

Website https://www.icp.edu.pk/

BACHELOR OF SCIENCES IN MECHATRONICS ENGINEERING

University Of Engineering & Technology Peshawar Pakistan (13/09/2016 – 29/09/2020)

Website https://www.uetpeshawar.edu.pk/

MASTER OF SCIENCES IN MECHATRONICS ENGINEERING

University Of Engineering & Technology Peshawar Pakistan (12/08/2020 – 11/05/2022)

Website https://www.uetpeshawar.edu.pk/

WORK EXPERIENCE

- **LAB ENGINEER**

DEPARTMENT OF MECHATRONIC ENGINEERING, UNIVERSITY OF ENGINEERING & TECHNOLOGY UET PESHAWAR

01/08/2020 – 01/08/2022 Peshawar, Pakistan

- Numerical Analysis: Conducted tutorial sessions to provide students with practical insights into solving complex mathematical problems using numerical approaches.

- Digital Signal Processing: Assisted in organizing laboratory sessions, guiding students through hands-on experiments with signal processing techniques.
- Robotics: Assisted in setting up and conducting robotics experiments, encouraging hands-on learning and experimentation.
- Control System: Supported the delivery of lectures on robotics kinematics, dynamics, and control systems principles & Offered guidance to students in developing control algorithms for robotic systems.

- **RESEARCH ASSISTANT**

NATIONAL CENTRE OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE UET PESHAWAR

- Successfully developed and implemented cutting-edge AI models for healthcare data analysis,resulting in [specific outcome or improvement].
- Collaborated with a multidisciplinary team of researchers to devise innovative solutions for complexhealthcare challenges.
- Conducted extensive literature reviews, contributing to the foundation of evidence-based researchand knowledge dissemination.
- Demonstrated strong programming skills by effectively coding and optimizing algorithms in [programming languages used, e.g., Python, MATLAB].

- **RESEARCH ASSOCIATE**

NATIONAL CENTRE OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE UET PESHAWAR

14/10/2022 – CURRENT Peshawar, Pakistan

- Demonstrated strong leadership by guiding a multidisciplinary team through successful projectcompletion, fostering collaboration and synergy.
- Played a key role in securing, validating the center's role as a leader in AI-driven healthcare innovation.
- Showcased expertise in programming and algorithmic implementation.
- Actively participated in conferences and seminars, presenting research insights and engaging inscholarly discussions.

LANGUAGE SKILLS

- English Fluently Speaking & Writing
- Urdu Fluently Speaking & Writing
- Pushto Fluently Speaking & Writing

LIST OF PUBLICATION

Here is the list of publications in IEEE format based on the provided sources:

1. **I. U. Haq,** H. A. Khan, G. Husnain, L. Jan, and S. Lim, "Enhancing Manufacturing Efficiency through Alarm Flexibility in Smart Systems," IEEE Access, pp. 1–1, 2023.
2. M. Anas, **I. U. Haq,** G. Husnain, and S. A. F. Jaffery, "Advancing Breast Cancer Detection: Enhancing YOLOv5 Network for Accurate Classification in Mammogram Images," IEEE Access, 2024.
3. Alkahtani, H. K., **Haq, I. U.,** Ghadi, Y. Y., Innab, N., Alajmi, M., & Nurbapa, M. (2024). Precision Diagnosis: An Automated Method for Detecting Congenital Heart Diseases in Children from Phonocardiogram Signals Employing Deep Neural Network. *IEEE Access*.

4. N. Y. Khattak, E. G. Hussnain, W. Ahmad, S. U. Islam, and **I. U. Haq,** "Computer vision-based human activity classification and prediction," The Sciencetech, vol. 4, no. 1, p. 4, 2023.
5. M. Ahmad, M. A. Irfan, U. Sadique**, I. Haq,** A. Jan, M. I. Khattak, Y. Y. Ghadi, and M. Anas, "Multi-method analysis of histopathological image for early diagnosis of oral squamous cell carcinoma using deep learning and hybrid techniques," Cancers, vol. 15, no. 21, p. 5247, 2023.
6. Y. Y. Ghadi, G. M. Abdullah, Z. Zargham**, I. U. Haq**, T. Alshloul, and S. Riaz, "Revolutionizing Small-Scale Retail: Introducing an Intelligent IoT-based Scale for Efficient Fruits and Vegetables Shops," Applied Sciences, vol. 13, no. 14, pp. 1–26, 2023.
7. M. Khan, G. Husnain, W. Ahmad, Z. Shaukat, L. Jan, **I. U. Haq,** S. U. Islam, and M. Anas, "Performance evaluation of Machine Learning models to predict heart attack," Machine Graphics and Vision, vol. 32, no. 1, pp. 99–114, 2023.
8. **I. U. Haq,** S. Anwar, and G. Hasnain, "A Combined Approach for Multiclass Brain Tumor Detection and Classification," Pakistan Journal of Engineering and Technology, vol. 5, no. 1, pp. 83–88, 2022.
9. L. Jan, G. Husnain, W. T. Sethi, **I. U. Haq**, Y. Y. Ghadi, and H. G. Mohamed, "Empowering the Future of Hybrid MIMO-RF UOWC: Advanced Statistical Framework for Channel Modeling and Optimization for the Post-5G Era and Beyond," IEEE Access, 2023.
10. **I. U. Haq,** H. A. Khan, G. Husnain, L. Jan, and S. Lim, "Enhancing Manufacturing Efficiency through Alarm Flexibility in Smart Systems," IEEE Access, pp. 1–1, 2023.
11. **I. U. Haq**, S. Anwar, and T. Khan, "Machine Vision Based Predictive Maintenance for Machine Health Monitoring: A Comparative Analysis," in 2023 International Conference on Robotics and Automation in Industry (ICRAI), 2023.
12. **I. U. Haq,** M. T. Khan, and U. Sadique, "An Intelligent Approach for Blood Cell Detection Employing Faster RCNN," Pakistan Journal of Engineering and Technology, vol. 6, no. 1, pp. 1–6, 2023.
13. **I. U. Haq,** "Implementing the Concept of Alarm Flexibility During Production," Pakistan Journal of Engineering and Technology, vol. 5, no. 3, pp. 13–21, 2022.
14. Z. Shaukat, W. Zafar, W. Ahmad**, I. U. Haq,** G. Husnain, M. H. Al-Adhaileh, and M. Anas, "Revolutionizing Diabetes Diagnosis: Machine Learning Techniques Unleashed," Healthcare, vol. 11, no. 21, p. 2864, 2023.
15. **I. U. Haq** and M. Ahmad, "Enhanced Respiratory Tract Auscultation Audio Signal Classification Technique Employing LSTM and RNN," in 2023 7th International Multi-Topic ICT Conference (IMTIC), 2023.
16. I. Ullah, M. Yasir**, I. U. Haq**, and G. Husnain, "Performance Evaluation of Secured Virtual Private Network based on Dynamic Multipoint Virtual Private Network," in International Conference on Computing Technologies, Tools and Applications, 2023.
17. S. U. Islam, **I. U. Haq** and G. Husnain, "Android Based Application for Finding the Nearest Mosques and Prayer Times in a New Area Using Mobile GPS," 2023.
18. M. Ahmad, **I.U.Haq** and M. I. Khattak, "A Novel Hybrid AI-Based System for Early Detection of Oral Squamous Cell Carcinoma via Histopathological Images," in International Conference on Computing Technologies, Tools and Applications, 2023.
19. **I. U. Haq,** Z. A. Khan, M. Aqib, and S. Anwar, "Design and Fabrication of an Intelligent Cardiopulmonary Resuscitation Device," in National Conference on Research and Contemporary Issues in Management, 2020.
20. M. O. Khan, R. Akhtar, and **I. U. Haq,** "Risk Factors Identification from Contractors Perspective," Pakistan Journal of Engineering and Technology, vol. 5, no. 2, pp. 221–225, 2022.
21. R. Akhtar, Z. A. Khan, K. Khan, and **I. U. Haq,** "Assessment of Adhesives Performance of 3-Layered Polyethylene Coatings in the Oil and Gas Industry," Pakistan Journal of Engineering and Technology, vol. 5, no. 2, pp. 51–59, 2022.

22. **I. U. Haq,** M. Asad, G. Husnain, M. Anas, and S. Anwar, "Enhancing Brain Tumor Detection: A Machine Vision-Based Multiclass Classification Approach."
23. S. H. Bangash, I. U. Khan, Z. U. Khan, J. Khan, M. Tahir, W. Ahmad, **I. U. Haq,** and M. Anas, "A Comprehensive Study on Early Prevention and Detection of Cardiac Health Issues Using Machine Learning and Deep Learning Algorithms."