Dr. Mumtaz Zahoor s/o Zahoor Ahmad

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Research Profile: https://www.researchgate.net/profile/MirzaZahoor

Summery

Dr. Mumtaz Zahoor is an accomplished researcher and academic with a specialization in Artificial Intelligence, Deep Learning, Medical Image Processing, and Cybersecurity. Currently serving as Assistant Professor and Program Head of AI at Ibadat International University, Islamabad, he has demonstrated strong expertise in applying advanced AI techniques to healthcare and digital imaging. With a PhD in Machine Learning and Digital Image Processing from PIEAS, Dr. Zahoor has contributed extensively through high-impact research publications, national and international seminars, and supervision of undergraduate theses. He is actively involved in curriculum development, academic leadership, and serves as a reviewer for prestigious journals including IEEE Access, PLoS ONE, and Scientific Reports.

Research Area

Dr. Mumtaz Zahoor specializes in Artificial Intelligence, Robotics, Deep Learning, Medical and Digital Image Processing, Computer Vision, Cybersecurity, and Machine Learning. He possesses a strong track record in designing and integrating intelligent systems, computational architectures, and strategic frameworks tailored to address complex challenges in the medical and information technology domains. His work emphasizes the development of robust, scalable, and application-driven solutions that align with cutting-edge technological needs.

Interpersonal Skills:

- ➢ **Goal-Oriented and Resilient:** Demonstrates exceptional ability to perform under pressure, consistently achieving challenging and predefined objectives.

- ➢ **Self-Motivated and Reliable:** Known for a strong sense of independence, enthusiasm, and dedication to excellence.

- ➢ **Ethical and Value-Driven:** Actions are guided by honesty, integrity, and a deep commitment to professional and personal values.

- ➢ **Focused and Conscientious:** Highly task-oriented with a readiness to take on responsibilities at any level, ensuring precision and thoroughness in every endeavor.

Teaching Experience:

Assistant Professor, & Program Head AI: Ibadat International University Islamabad

[July 2023 – Working]

- ➢ **Course Design & Delivery**:
  - ▪ Designed and delivered advanced courses in **Artificial Intelligence**, **Digital Image Processing**, and **AI in Healthcare**.
  - ▪ Emphasized **experiential learning**, encouraging students to apply AI techniques to real-world problems in healthcare and information security.

- ➢ **Thesis Supervision**:
  - ▪ Supervised numerous undergraduate and MSCS theses on impactful topics like:
    - ✓ **Brain tumor classification**
    - ✓ **Skin disease detection**
    - ✓ **AI-driven diagnostics**
    - ✓ **Medical image analysis using deep learning (CNNs)**.
  - ▪ Contributed to both students' academic growth and the broader research landscape in **medical AI** and **cybersecurity**.
- ➢ **Curriculum Development**:
  - ▪ Led the design and implementation of **Outcome-Based Education (OBE)** curricula for undergraduate programs in **AI**, **Machine Learning**, and **Digital Image Processing**.
- ➢ **Course Learning Outcomes (CLOs) & Program Learning Outcomes (PLOs)**:
  - ▪ Mapped CLOs to PLOs for measurable student competencies.
  - ▪ Integrated **labs**, **projects**, and **interdisciplinary content** to enhance **problem-solving**, **critical thinking**, and real-world applicability.
- ➢ **Collaboration & Adaptability**:
  - ▪ Collaborated with **academia and industry** to ensure curriculum relevance and adaptability to **emerging technological trends**.
- ➢ **Academic Quality Assurance**:
  - ▪ Contributed to **academic quality assurance** by preparing:
  - ▪ **Course files**
  - ▪ **Self-assessment reports (SARs)**
  - ▪ Participating in **curriculum audits**.

Permanent Lecturer: Ibadat International University Islamabad

[March 2021 – July 2023]

- ➢ Taught key undergraduate courses in Machine Learning, Information Security, and Object-Oriented Programming, emphasizing hands-on skills and real-world applications.
- ➢ Supervised and co-supervised multiple BS theses, focusing on the application of AI in medical diagnostics,

Teaching Assistance: Pakistan Institute of Engineering and Applied Sciences

[Feb 2018 –Dec 2019]

Courses Taught: Probability and statistics, Artificial Intelligence, Digital Image Processing and Analysis, Computer Fundamentals.

Education:

Degree Name	**Doctorate of Philosophy. PhD (2018 –2023)**
Level Attained	Ph.D. Machine Learning and Digital Image Processing
Institute	Pakistan Institute of Engineering and Applied sciences (PIEAS) Islamabad

Degree Name	**MS Computer Science (2014 -2016)**
Level Attained	M.Phil. In Computer Science
Institute	University Of Lahore Islamabad Campus

Degree Name	**BS Computer Science (2009-2013)**
Level Attained	Bachelors of Computer Science
Institute	Allama Iqbal Open University Islamabad

Degree Name	**DAE (Electronics) (2008)**
Level Attained	HSSC (Higher Secondary School Certification)
Institute	Punjab Board of Technical Education

Degree Name	**Matriculation (2005)**
Level Attained	SSC (Secondary School Certificate)
Institute	Rawalpindi Board.

Technical Skills

- **Programming Languages**: Python, MATLAB, C++/C#
- **Deep Learning Frameworks**: TensorFlow, PyTorch
- **Medical Imaging Tools**: OpenCV, ITK-SNAP
- **Other Skills**: CUDA Programming, Statistical Analysis

Certifications:

- **Python for Data Science, AI & Development "***Coursera", IBM, March, 2024. https://www.coursera.org/account/accomplishments/records/9EUK54XGBWWN* .

- **Prepare Data for Exploration "***Coursera", Google, Dec, 2022. https://www.coursera.org/account/accomplishments/certificate/UBCGVZQA9F99.*

- **Foundations: Data, Data, Everywhere "***Coursera", Google, 2022. https://www.coursera.org/account/accomplishments/certificate/NLPAE5QQ3BQG*

- **Ask Questions to Make Data-Driven Decisions "***Coursera", Google, 2022. https://www.coursera.org/account/accomplishments/certificate/MZEQVC2RC57W*

- **Introduction to Cybersecurity "***Cisco Networking Academy", 24 Nov 2022.*

- **Artificial Intelligence (AI) For Everyone "***Coursera", Deep Learning.AI, Oct 25, 2021. https://coursera.org/verify/JVMKF59JSEKW* .

- **Improving Deep Neural Networks: Hyper parameter Tuning, Regularization and Optimization**

- **"***Coursera.", Deep Learning.AI, Aug 22, 2020. https://coursera.org/verify/45F8RJWVXRUP.*

- ➢ **Artificial Intelligence (AI) for Medical Diagnosis "***Coursera", Deep Learning.AI, June 23, 2020. https://coursera.org /verify/V5T JXPG S K7T 4.*

Research Activities

- ➢ **Presented Seminar as Speaker***"From Soft Power to Soft War: Breaching Cyber Security through Media Warfare", June 22, 2023. Fatima Jinnah Women University, Rawalpindi.*

- ➢ **Attended EdTech Conference "***Tech-Driven Education Transformation for Impactful Learning Outcomes.", Islamabad, 2023.*

- ➢ **InnoXera Global Edtech Summit "***Future Inovation in Smart Learning.", NUST, Islamabad, 2023.*

- ➢ **Participated in International Seminar "***Pakistan Growing Global Impact: A Data MasterClass by Times Higher Education (THE).", Islamabad, 25th January 2023.*

- ➢ **Presented Webinar as Speaker***"Digital Image Processing A Bird-Eye view", December 12, 2022. Ibadat International University, Islamabad.*

- ➢ **Presented Seminar as Speaker***"Introductory Series: Digital Image Processing A Bird-Eye view", April 11-14, 2022.Ibadat International University, Islamabad.*

- ➢ **Attended International Conference "***5th International Conference Artificial Intelligence Technology ", The National University of Malaysia (virtual), 2021.*

- ➢ **Attended AI Webinar "** *AI in Earth Sciences", 2021.*

- ➢ **Attended AI Webinar "***AI for Healthcare and Autonomous Systems*", September 03, 2020.

- ➢ **As a Judge** in "*Final Year Project Exhibations", Bulquis Post Graduate College for Women, Chaklala Cannt, April 2019.*

- ➢ **Attended International Symposium** "*Deep Learning for Healthcare Systems", Kohat University, 2019.*

- ➢ **Attended International Conference "***Deep Learning for Healthcare and Autonomous Systems", GIKI University (Swabi), 2019.*

- ➢ **Attended International Symposium** *on "Advances in Computer and Information Sciences", 2018, in DCIS, PIEAS.*

Research Project:

Institute:	Pakistan Institute of Engineering and Applied Sciences
Level:	PhD. In Medical Image processing, and Machine Learning
Title:	Brain Tumor Image Analysis using Deep Neural Networks
Institute:	University Of Lahore
Level Attained:	M.Phil. In Computer Science
Title:	Multiuser Detection Using Local Search Techniques Based on Interior-Point Algorithm

Research Publications:

1. **Mirza Mumtaz Zahoor,** Qureshi, S.A.; Bibi, S.; Khan, S.H.; Khan, A.; Ghafoor, U.; Bhutta, M.R. A New Deep Hybrid Boosted and Ensemble Learning-Based Brain Tumor Analysis Using MRI. Sensors 2022, 22, 2726. https://doi.org/10.3390/s22072726" (**IF=3.9, W Category).**

2. **Mirza Mumtaz Zahoor,** Shahzad Ahmad Qureshi, Asifullah Khan, Aziz ul Rehman & Muhammad Rafique (2022) A novel dual-channel brain tumor detection system for MR images using dynamic and static features with conventional machine learning techniques, Waves in Random and Complex Media, DOI: 10.1080/17455030.2022.2070683 (**IF=4.9, W Category**).

3. Alqahtani, Ali, **Mirza Mumtaz Zahoor**, Rimsha Nasrullah, Aqil Fareed, Ahmad Afzaal Cheema, Abdullah Shahrose, Muhammad Irfan, Abdulmajeed Alqhatani, Abdulaziz A. Alsulami, Maryam Zaffar, and Saifur Rahman. 2022. "Computer Aided COVID-19 Diagnosis in Pandemic Era Using CNN in Chest X-ray Images" Life 12, no. 11: 1709. https://doi.org/10.3390/life12111709 (**IF=3.25, Y Category**)

4. **Mirza Mumtaz Zahoor**.; Khan, S.H.; Alahmadi, T.J.; Alsahfi, T.; Mazroa, A.S.A.; Sakr, H.A.; Alqahtani, S.; Albanyan, A.; Alshemaimri, B.K. Brain Tumor MRI Classification Using a Novel Deep Residual and Regional CNN. Biomedicines 2024, 12, 1395. https://doi.org/10.3390/biomedicines12071395

Under Review/Preprints:

1. S.I Khan, I.F, **Mirza Mumtaz Zahoor et.al**, "Deep Learning-Based Masked Face Recognition System for Enhanced Accuracy."

2. Muhammad Hasnain Abbas Khan, M Junaid Arshad, **Mirza Mumtaz Zahoor et al**. An Improved Predictive Model for Assessing the Impact of Deforestation and CO_2 Emissions on Flood Hazards in Pakistan, 02 April 2025, PREPRINT (Version 1) available at Research Square https://doi.org/10.21203/rs.3.rs-6363085/

Members:

1. **Academic Council:** Ibadat International Univerisity , Islamabad
2. **Board of Faculty:** Faculty of Computer Sciences**,** Ibadat International Univerisity , Islamabad
3. **Board of Studies:** Department of Computer Science**,** Faculty of Computer Sciences**,** Ibadat International University , Islamabad

International Journal Reviewer

1. **PLoS ONE**, Q1 ranking, Impact Factor (3.7), HEC (W, Gold)
2. **IEEE Access,** Q1 ranking Impact Factor (3.4), HEC (W, Gold)
3. **Scientific Reports,** Q1 ranking Impact Factor (3.8), HEC (W, Gold)

Research and Development Supervision:

- Supervised BS Thesis "**Skin Disease Detection Using Deep Convolutional Neural Network**", Wahaj Ahmed, Junaid Abbas (CS&IT, UOL, 2021 2022).

- Supervised BS Thesis "**Brain Tumor Classification Using Pre-trained CNN**", Muhammad Umer Sohail, Adnan Haider Abidi (CS&IT, UOL, 2021 2022).

- Co-Supervised BS Thesis "**Skin Disease Detection System Using Machine Learning**", Zeenia Bibi, Mehreen Fatima (CS&IT, UOL, 2021 2022).

- Supervised BS Thesis "**Brain Tumor Classification of MRI images using Deep Learning**", Muhammad Owais Mazhar, Muhammad Hassan (CS&IT, UOL, 2021 2022).

- Co-Supervised BS Thesis "**Brain Tumor Analysis using Machine Learning and Statistical Feaures**", Aqib Ismaeel, Umer Shahzad (DCIS, PIEAS, 2020-2021).

- Co-Supervised BS Thesis "**Detection of COVID-19 Chest X-Ray Using LR & RF and CNN**", Rimsha Nasrullah, Ahmed Afzaal Cheema, Aqil Fareed (CS&IT, UOL, 2021 2022).

References:

1. Professor Dr. Asifullah Khan (Professor/ Deputy Chief Scientist, DCIS, PIEAS, Islamabad)
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https://scholar.google.com.pk/citations?user=C8uhO88AAAAJ&hl=en
https://www.researchgate.net/profile/Asifullah-Khan

2. Professor Dr. Junaid Ali Khan (Professor/ Dean Faculty of Basic Sciences / Chairperson CS)
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https://www.researchgate.net/profile/Junaid-Khan-83