Uzair Shah

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EDUCATION

Hamad Bin Khalifa University (HBKU), Qatar **Supervisor: Prof. Mowafa Househ**
Doctoral Degree in Computer Science and Engineering *2022.09 - Present*
Hamad Bin Khalifa University (HBKU), Qatar **Supervisor: Prof. Mowafa Househ**
Master of Data Analytics *2020.09 - 2022.06*
Abdul Wali Khan University Mardan (AWKUM), Pakistan
Bachelor of Computer Science *2015.09 - 2019.06*

WORKING EXPERIENCES

2022.09 - Now: PhD Research Fellow at Hamad Bin Khalifa University (HBKU), Qatar. Work on AI applications in biomedicine and health informatics.
2024.07: Visiting Research Intern at King Abdullah University of Science and Technology (KAUST), Saudi Arabia. Selected for prestigious Visiting Student Research Program.
2023.05 - 2023.07: Data Scientist Intern at PanData, Doha, Qatar. Developed evaluation metrics for Large Language Models.
2021.10 - 2022.08: Lead Technician at Ooredoo Qatar. Managed technical operations and network optimization.

TEACHING EXPERIENCE

Teaching Assistant **Hamad Bin Khalifa University, Qatar**
Principles of Health Informatics *Jan 2025 - May 2025*
Led lab sessions and provided mentorship to students, supporting technical guidance and assessment in health informatics applications.
Introduction to Python Programming *Sep 2023 - Dec 2023*
Facilitated hands-on programming labs, created supplemental learning materials that enhanced student project outcomes and programming proficiency.
Healthcare Information System *Sep 2021 - Dec 2021*
Provided instructional support, created assessment materials and conducted tutorial sessions for students in health informatics fundamentals.
Applied AI Tutorial Instructor **Various Academic Events**
Conducted several applied AI tutorials focusing on practical implementations of machine learning and deep learning techniques in healthcare and biomedicine. Topics covered include medical image analysis, natural language processing for health data, and hands-on workshops on TensorFlow and PyTorch for biomedical applications.

PRESENTATIONS

International Conference Presentations

U. Shah, et. al,
SAM4EM: Efficient memory-based two stage prompt-free segment anything model adapter for complex 3D neuroscience electron microscopy stacks
IEEE CVPRW 2025. [Video: 2:17:00-2:30:00]
U. Shah, et. al
Vaccine Rollout and Sentiment Shift in Twitter Population: A Surveillance Study
Paper presented at IMIA MedInfo 21 Conference. [Video Link]
U. Shah, et. al.
Recent Developments in Artificial Intelligence-based Techniques for Prostate Cancer Detection: A Scoping Review
Paper presented at 18th ICIMTH 2020 Greece. [Video Link]

Invited Presentations:

U. Shah
Vision Transformers for 3D Analysis and Reconstruction
Selected presentation at the Joint Workshop between Tsinghua University and Hamad Bin Khalifa University (HBKU). One of two student representatives chosen from HBKU to present research to the visiting Tsinghua University delegation.

RESEARCH INTERESTS

Health Informatics: Electronic Health Records Analysis, Clinical Prediction Models, Medical Image Analysis
Machine Learning: Deep Learning, Computer Vision, Natural Language Processing
Data Science: Large-scale Healthcare Data Analysis, Statistical Modeling, Pharmacoepidemiology
AI Applications: Brain-Computer Interfaces, Medical Imaging Segmentation, Health Surveillance

PUBLICATIONS

Published (First Author)

1. **U. Shah**, M. Alzubaidi, M. Agus, C. Calí, P. J. Magistretti, M. Househ
   Deep Learning for Brain Electron Microscopy Segmentation: Advances, Challenges, and Future Directions in Connectomics and Ultrastructure Analysis
   accepted for presentation VCBM2025 and Journal of Computers & Graphics[In press] [**IF:2.5**]

2. **U. Shah**, S. Jashari, M. Tukur, M. Househ, G. Pintore, E. Gobbetti, J. Schneider, M. Agus **Virtual Staging of Indoor Panoramic Images via Multi-task Learning and Inverse Rendering**
   IEEE Computer Graphics and Applications [**IF:1.4**]

3. **U. Shah**, M. AGUS, D. Boges, H. Aldous, v. Chiappini, M. Alzubaidi, J. Schneider, M. Hadwiger, P. J. Magistretti, M. Househ, C. Calí
   AI-Guided Immersive Exploration of Brain Ultrastructure for collaborative analysis and education
   Journal of Computers & Graphics [**IF:2.5**]

4. **U. Shah**, M. AGUS, D. Boges, v. Chiappini, M. Alzubaidi, J. Schneider, M. Hadwiger, P. J. Magistretti, M. Househ, C. Calí
   SAM4EM: Efficient memory-based two stage prompt-free segment anything model adapter for complex 3D neuroscience electron microscopy stacks
   IEEE CVPRW 2025

5. **U. Shah**, M. Alzubaidi, E. Al-Amri, M. AGUS, M. Househ
   FADA: Fetal Accurate Detection AI for Automated Ultrasound Image Analysis and Reporting
   Medinfo 2025

6. **U. Shah**, N. Khan, M. Alzubaidi, M. AGUS, M. Househ
   ArtInsight: A Multimodal AI Framework for Interpreting Children's Drawings and Enhancing Emotional Understanding
   MIE 2025

7. **U. Shah**, S. Jashari, M. Tukur, G. Pintore, E. Gobbetti, J. Schneider, M. Agus
   VISPI: Virtual Staging Pipeline for Single Indoor Panoramic Images
   STAG 2024 **(Best Paper Award ⭐)**

8. **U. Shah**, M.R Biswas, M. AGUS, M. Househ, W. Zaghouani
   MemeMind at ArAIEval Shared Task: Generative Augmentation and Feature Fusion for Multimodal Propaganda Detection in Arabic Memes
   ArabicNLP 2024

9. **U. Shah**, M. Tukur, M.S. Alzubaidi, G. Pintore, E. Gobbetti, M. Househ, J. Schneider, M. Agus
   MultiPanoWise: holistic deep architecture for multi-task dense prediction from a single panoramic image
   CVPRW 2024

10. **U. Shah**, J. Schneider, E. Gobbetti, G. Pintore, M.S. Alzubaidi, M. Househ, M. Agus
EleViT: exploiting element-wise products for designing efficient and lightweight vision transformers
CVPRW 2024

11. **U. Shah**, M. Alzubaidi, F. Moshen, T. Alam, M. Househ
Ensemble-Based Feature Engineering Mechanism to Decode Imagined Speech from Brain Signals
Informatics in Medicine Unlocked

12. **U. Shah**, M. Alzubaidi, F. Moshen, A.A. Abd-Alrazaq, T. Alam, M. Househ
The Role of Artificial Intelligence in Decoding Speech from EEG Signals: A Scoping Review
Sensors [**IF: 3.4**]

13. **U. Shah**, A.A. Abd-Alrazaq, J. Schneider, M. Househ, Z. Shah
Tweeters' Concerns and Opinions about the COVID-19 Booster Shots: Infoveillance Study
Journal of Consumer Health on the Internet

14. **U. Shah**, M.R. Biswas, R. Ali, H. Ali, Z. Shah
Public Attitudes Towards Vaccination Before and After the COVID-19 Pandemic
Human Vaccines & Immunotherapeutics [**IF: 4.1**]

15. **U. Shah**, M.R Biswas, M. S. Alzubaidi, H. Ali, T. Alam, M. Housed, Z. Shah
Recent developments in artificial intelligence-based techniques for prostate cancer detection: A scoping review
Stud Health Technol Inform 2022

16. **U. Shah**, M.R. Biswas, K. MM Dolaat, M. Househ, Z. Shah, T. Alam
Vaccine Rollout and Shift in Public Sentiment: Twitter-Based Surveillance Study
Medinfo 2021

17. **U. Shah**, A.A. Alrazeq, T. Alam, M. Househ, Z. Shah,
An Efficient Method to Predict Pneumonia from Chest X-rays using Deep Learning Approach ICIMTH 2020 Greece.

HONORS & AWARDS

Best Paper Award, Smart Tools and Applications in Graphics (STAG2024) *2024*
Third Place, Al-Fikra National Entrepreneurship Competition (50K QAR incubation) *2023*
First Place, CodeCamp Hackathon (2-year DIC incubation) *2022*
HBKU Merit-based PhD Fellowship *2022*
HBKU Merit-based MS Fellowship *2020*
Prime Minister Laptop Scheme Award *2017*

PROFESSIONAL SERVICES

Editorial Services:
Proceedings Editor, 20th World Congress on Medical and Health Informatics (Medinfo 2025) *2025*