Zubair Saeed Curriculum Vitae

CONTACT INFORMATION

Postdoc Research Associate,
Department of Electrical & Computer Engineering,Florida International University (FIU), Miami, FL, USA.

Cell: +1-979-701-7207
Email: zubairsaeed602@gmail.com
Citizenship: Pakistan
https://www.linkedin.com/in/zubair-saeed-91b160247

SHORT BIOGRAPHY

Zubair is a highly accomplished professional with a strong academic background and extensive research contributions. With notable expertise in computer vision, machine learning, and deep learning, he has published peer-reviewed research papers on various topics, including disease detection, small object detection, and cancer detection. He has been invited to review many peer-reviewed journals and IEEE proceeding articles. Proficient in Python, C/C++, and LaTeX, his diverse skill set, and research acumen make him an asset in the realm of Artificial Intelligence.

EDUCATION

Post Doctoral **Mar 2026 – Present**

Florida International University (FIU), Miami, FL, USA

- **Adviser:** Professor Fahad Saeed, Department of Electrical & Computer Engineering.
- **Area:** Medical Imaging, Deep Learning, and Artificial Intelligence.

Ph.D. Electrical & Computer Engineering **May 2023 – Dec 2025**

Texas A&M University, College Station, TX, USA

- **Thesis:** Predicting Radiotherapy Treatment Response of Lung and Head-Neck Cancer Using Artificial Intelligence.
- **Adviser:** Professor Jim Ji, Department of Electrical & Computer Engineering.
- **Area of Study:** Radiotherapy, Medical Imaging, Deep Learning, and Artificial Intelligence.

Got a fully funded Ph.D. scholarship from Texas A&M University for the above thesis in collaboration with the Hammad Medical Corporation (HMC) in Qatar. Gathering real data of lung and head-neck cancer patients from HMC and developing AI-based segmentation solutions for organ-at-risk (OAR) and tumors. 3.77/4.00 CGPA.

M.S. Computer Engineering **Nov 2020 – Jan 2023**

University of Engineering and Technology (UET), Taxila, Punjab, Pakistan

- **Thesis:** Real-Time On-Board Small-Scaled Object Detectors for Unmanned Aerial Vehicles (UAVs).
- **Adviser:** Professor M. Haroon Yousaf, HOD, Department of Computer and Software Engineering
- **Area of Study:** Artificial Intelligence and Robotics, Computer Vision, and Machine Learning.

Got a fully funded M.S. scholarship for a funded project of Swarm Robotic Lab (SRL) from the Higher Commission of Pakistan (HEC). I was working on swarm robotics and computer vision. **Gold Medalist** with a 3.83/4.00 CGPA.

B.S. Computer Engineering **Sep 2016 – Jul 2020**

Heavy Industry Taxila Education City (HITEC) University, Taxila, Punjab, Pakistan

- **Design Project:** Machine Learning and IoT-Based Plant Disease Detection and Monitoring Robot.
- **Advisor:** V.C Professor M. Younus Javed, Department of Computer Engineering & Science.
- **Major Subjects:** Artificial Intelligence, Digital Signal Processing, Object Oriented Programming, Computer Programming, Algorithm Design etc.

Got partial scholarship during studies for outstanding performance in batch. Awarded by fully funded Final Year Project (FYP) by IGNITE Pakistan. **Silver Medalist** with a 3.72/4.00 CGPA.

EXPERTISE AND INTERESTS

Computing:

- Artificial Intelligence, Medical Imaging, Computer Vision, Machine Learning, and Deep Learning.

Devices:

- Raspberry Pi, OAK-D AI Kit, Jetson Nano, Jetson Xavier, Neural Compute Stick, ESP Wi-Fi Module, Arduino, etc.

Applications:

- Medical Imaging, Lung and Head-Neck Cancer, Plant Disease Detection, COVID and Pneumonia Detection, Pothole Detection, Ariel View Based Small Objects Detection, Cyber Security Challenges in Connected and Autonomous Vehicles (CAVs), etc.

EXPERIENCE

Texas A&M University

Graduate Assistant - Research **Jan 2025 to Present**

- **Responsibilities at Lab:** Conduct R&D of AI-based solutions for segmenting of organs-at-risk (OARs) and tumors using Head&Neck and Lung medical imaging. Designing and optimizing deep learning models for precise segmentation, integrating radiomics approaches to extract and analyze imaging biomarkers. Focus on improving disease characterization, prognosis prediction, and treatment planning using machine learning techniques. Additionally, I collaborate with clinicians and researchers to translate AI models into clinical applications, ensuring accuracy, efficiency, and real-world impact.

Texas A&M University

Graduate Assistant - Teaching **Aug 2024 to Jan 2025**

- **Responsibilities at Campus**: Taught lab sections of bachelors' students of Electrical and Computer Engineering Department (ECEN), Texas A&M University (TAMU), College Station, TX, USA. Taught Labs of Machine Learning course Digital System Design to ECEN students.
- **Responsibilities at Lab:** Conducting research and develop of AI-based solutions for segmentation of organs-at-risk and tumors in Head & Neck and Lung. Develop the radiomics approach to analyze the medical imaging details. Published papers in top AI related conferences and journals.

Texas A&M University at Qatar

Graduate Assistant - Research **May 2023 to Jul 2024**

- **Responsibilities at HMC**: Visited HMC regularly to collect the Lung and Head-Neck patients' medical imaging dataset. The dataset includes PET, CT, MRI, Radiotherapy, and treatment plans. Critically analyze the dataset and prepare it for the classification, detection, and segmentation task.
- **Responsibilities at Lab:** Read the latest cutting-edge research and develop AI-based solutions for autonomous detection and segmentation of organs-at-risk and tumors. Develop the radiomics approach to analyze the medical imaging details. Published papers in top AI related conferences and journals.

Swarm Robotics Lab (SRL), UET University, Pakistan

Research Assistant **Oct 2020 to Dec 2022**

- **Responsibilities:** Did Computer Vision (CV) related research where the vision is required by the Unmanned Ariel Vehicles (UAV). Also, worked for Plants Disease Detection and Classification, Real-Time Pothole Detection, and Swarm Robotics using Machine and Deep Learning.

Community of Research and Development (CRD), UET University, Pakistan

Researcher **Jan 2021 to Dec 2022**

- **Responsibilities:** Provided an online internship in the field of machine and deep learning to 100 candidates from different universities in Pakistan. Did many projects related to COVID-19 and Pneumonia Classification, Efficient Leaf Disease Detection, Emotion Recognition, Digital Fundus Images (FDI) Based Eye Disease Detection and Classification, Intelligent Breast Cancer Detection System, etc.

College of Electrical and Mechanical Engineering (CEME), NUST University Pakistan

Internship **Jun 2019 to Aug 2019**

- **Responsibilities:** Completed assigned project of "IoTs Based Master-Slave Communication Using Efficient Communication Protocol" by using equipment: Arduino nano and mega, ESP-8266 Wifi Module, Different Sensors (IR, Ultrasonic, Temperature, etc.), Arduino IDE. Uploaded the real-time sensor's value in the cloud (ThingSpeaks) for live monitoring.

MISCELLANEOUS

Achievements:
2021: Provided 8-week Virtual Internship to 100 Candidates Through the CRD Platform
2020: Awarded IGNITE funding for Final Year Project
2019: Ambassador at EME NUST Olympiad
2017: Organizer at HITEC Olympiad
2017: Worked as a Technical Member of the Robotic Society
2017: Worked as an Entrepreneur with Yes Networks Certification

Awards:
2023: Awarded Deep Learning Training Certificate from LUMS
2021: Awarded by the Best Article Presenter of the Session at ICRAI'21
2021: Awarded by the Appreciation of AI internship
2021: Awarded by the Appreciation of Article Presentation at FIT'21.

2021: Awarded by the Basics of Deep Learning from NVIDIA
2017: Awarded Appreciation of Organizer at HITEC Olympiad
2016: Awarded by the Information Technology (IT) Certificate
2017: Awarded by the Teaching Certificate

PUBLICATIONS

Journal Publications:

1. **Saeed Z,** Torfeh T, Aouadi S, Ji X, Bouhali O. (2024) An Efficient Ensemble Approach for Brain Tumors Classification Using Magnetic Resonance Imaging. *Information*. **(IF: 2.9)**
2. **Saeed, Z**., Bouhali, O., Ji, J. X., Hammoud, R., Al-Hammadi, N., Aouadi, S., & Torfeh, T. (2024). Cancerous and Non-Cancerous MRI Classification Using Dual DCNN Approach. *Bioengineering*. **(IF: 4.71)**
3. **Saeed, Z.,** Yousaf, M. H., Ahmed, R., Velastin, S. A., & Viriri, S. (2023). On-board small-scale object detection for unmanned aerial vehicles (UAVs). *Drones*. **(IF: 4.8)**
4. Shahzad, M. M., **Saeed, Z.,** Akhtar, A., Munawar, H., Yousaf, M. H., Baloach, N. K., & Hussain, F. (2023). A review of swarm robotics in a nutshell. *Drones*. **(IF: 4.8)**
5. Khan, M. U., **Saeed, Z.,** Raza, A., Abbasi, Z., Ali, S. Z. E. Z., & Khan, H. (2022). Deep Learning-based Decision Support System for classification of COVID-19 and Pneumonia patients. *JAREE (Journal on Advanced Research in Electrical Engineering)*, *6*(1).
6. Ishtiaq, A., **Saeed, Z.,** Khan, M. U., Samer, A., Shabbir, M., & Ahmad, W. (2022). Fall detection, wearable sensors & artificial intelligence: A short review. *JAREE (Journal on Advanced Research in Electrical Engineering)*, *6*(2).
7. **Saeed, Z.,** Masood, M., & Khan, M. U. (2023). A review: Cybersecurity challenges and their solutions in connected and autonomous vehicles (CAVs). *JAREE (Journal on Advanced Research in Electrical Engineering)*, *7*(1).
8. **Saeed, Z.,** Rehman, H. U., Haseeb, A., Taseen, R., Shah, M. S., Shaikh, I. U. H., & Ali, M. Z. H. (2023). Load Frequency Control by Quadratic Regulator Approach with Compensating Pole using SIMULINK. *JAREE (Journal on Advanced Research in Electrical Engineering)*, *7*(2).
9. **Saeed, Z.,** Shahzad, W., Rehman, A. U., Zaman, S., & Shehzad, F. (2024). Azimuth Angle and Magnetic Declination to Maximize Solar Panel Efficiency (Solar Tracking System). *JAREE (Journal on Advanced Research in Electrical Engineering)*, *8*(1).
10. Qureshi, N. U. H., Javed, S., Javed, K., Naqvi, S. M. R., Raza, A., & **Saeed, Z.** (2024). Demand Forecasting in Supply Chain Management for Rossmann Stores using Weather Enhanced Deep Learning Model. *IEEE Access*. **(IF: 3.6)**
11. Naqvi, S. M. R., Tahir, M. A., Javed, K., Khan, H. A., Raza, A., & **Saeed, Z.** (2024). Code-mixed street address recognition and accent adaptation for voice-activated navigation services. *IEEE Access*. **(IF: 3.6)**
12. Nawaz, U., **Saeed, Z.,** & Atif, K. (2025). A Novel Transformer-Based Approach for Adult's Facial Emotion Recognition. *IEEE Access*. **(IF: 3.6)**
13. Nawaz, U., **Saeed, Z.,** & Atif, K. (2025). A novel framework for efficient dominance-based rough set approximations using K-dimensional (KD) tree partitioning and adaptive recalculations techniques. *Engineering Applications of Artificial Intelligence*. **(IF: 8.0)**
14. Nawaz, U., Anees-ur-Rahaman, M., & **Saeed, Z.** (2025). A Survey of Deep Learning Approaches for the Monitoring and Classification of Seagrass. *Ocean Science Journal*. **(IF: 1.4)**
15. Khan, A. Q., Javed, K., Raza, A., Saleem, S., & **Saeed, Z.** (2025). Energy-Efficient Cell Association and Load Balancing for Low Battery Users in Heterogeneous Cellular Networks. *IEEE Access*. **(IF: 3.6)**
16. Raza, A., Ullah, E., Javid, K., Majid. M., & **Saeed, Z.** (2025). PGLM: Piecewise Generalized Linear Modeling of Ventricular Repolarization for Estimation of ECG T-wave Alternans. *EURASIP Journal on Advances in Signal Processing.* **(IF: 2.0)**
17. **Saeed, Z.,** Nawaz, U & Raza, A. (2025). Rice and Corn Plant Leaves Disease Detection Using Invariants of Deep Learning Models and Edge Perspective*. Artificial Intelligence and Applications.*
18. Nawaz, U., Anees-ur-Rahaman, M., & **Saeed, Z.** (2025). A review of neuro-symbolic AI integrating reasoning and learning for advanced cognitive systems. *Intelligent Systems with Applications*. **(IF: 4.3)**
19. Nawaz, U., **Saeed, Z.**, Ullah, H. M. U., Mirza, F., & Muzzamil, M. (2025). Explainable attention-enhanced approach for multimodal breast cancer diagnosis across diverse imaging modalities. *International Journal of Imaging Systems and Technology.* **(IF: 2.5)**
20. Nawaz, U., Nawaz, C. M. A., **Saeed, Z**., & Ubaidullah, H. M. (2025). DSTANet: Dual-scale transformer-guided attention network for accurate multi-OAR segmentation in head and neck CT images. *Intelligent*

Methods in Engineering Sciences.

21. **Saeed, Z.**, & Raza, A. (2025). ViTDelMel: Vision transformer-based melanoma skin disease detection through dermoscopic images. *SN Computer Sciences* **(IF: 3.74)**
22. Nawaz, U., Anees-ur-Rahaman, M., & **Saeed, Z.** (2025). An improved dynamic attention mechanism-based transformer approach for motor imagery electroencephalogram signals classification. *Engineering Applications of Artificial Intelligence.* **(IF: 8.0)**
23. Nawaz, U., Anees-ur-Rahaman, M., Ubaidullah, H. M., Nawaz, C. M. A., & **Saeed, Z.** (2025). Development of a hyperparameter-optimized decision support system for cardiovascular disease prediction. *Artificial Intelligence and Applications.*
24. **Saeed, Z.**, & Raza, A. (2025). CrackNet: Pavement Crack Detection and Classification Based on Deep Learning Models. *Intelligent Methods in Engineering Sciences.*

IEEE Conferences:

1. **Saeed, Z.,** Ji, X., Aouadi, S., Torfeh, T., & Bouhali, O. (2026). Automated Lung Tumor and Organ-at-Risk Segmentation in CT Imaging Using an Attention-Enhanced UNET Architecture. Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). IEEE.
2. **Saeed, Z.**, Aouadi, S., Torfeh, T., Ji, X., & Bouhali, O. (2025). DAM-UNET: Dual Attention Module UNET for Lung Tumor Segmentation Using CT Scans. *Conference on Artificial Intelligence (CAI).* IEEE.
3. **Saeed, Z.**, Torfeh, T., Aouadi, S., Ji, X., & Bouhali, O. (2024). Deep Learning-Based Multiclass Tumor Identification and Classification Using Fusion of DCNN Models. *International Conference on Signal Processing (ICSP)*. IEEE.
4. **Saeed, Z.,** Awan, M. N. M., & Yousaf, M. H. (2022). A Robust Approach for Small-Scale Object Detection From Aerial-View. In *2022 International Conference on Digital Image Computing: Techniques and Applications (DICTA)* (pp. 1-7). IEEE.
5. **Saeed, Z.,** Khan, M. U., Raza, A., Khan, H., Javed, J., & Arshad, A. (2021). Classification of pulmonary viruses X-ray and detection of COVID-19 based on invariant of inception-V 3 deep learning model. In *2021 International Conference on Computing, Electronic and Electrical Engineering (ICE Cube)*. IEEE.
6. **Saeed, Z.,** Raza, A., Qureshi, A. H., & Yousaf, M. H. (2021). A multi-crop disease detection and classification approach using CNN. In *2021 International Conference on Robotics and Automation in Industry (ICRAI*. IEEE.
7. **Saeed, Z.,** Khan, M. U., Raza, A., Sajjad, N., Naz, S., & Salal, A. (2021). Identification of leaf diseases in potato crop using Deep Convolutional Neural Networks (DCNNs). In *2021 16th International Conference on Emerging Technologies (ICET)*. IEEE.
8. Naqvi, S. Z. H., Khan, M. U., Raza, A., **Saeed, Z.,** Abbasi, Z., & Ali, S. Z. E. Z. (2021). Deep Learning Based Intelligent Classification of Covid-19 & Pneumonia Using Cough Auscultations. In *2021 6th International Multi-Topic ICT Conference (IMTIC)* (pp. 1-6). IEEE.
9. Raza, A., Khan, M. U., **Saeed, Z.,** Samer, S., Mobeen, A., & Samer, A. (2021). Classification of eye diseases and detection of cataract using digital fundus imaging (DFI) and inception-V4 deep learning model. In *2021 International Conference on Frontiers of Information Technology (FIT)* (pp. 137-142). IEEE.
10. Khan, M. U., Abbasi, M. A., **Saeed, Z.,** Asif, M., Raza, A., & Urooj, U. (2021). Deep learning based intelligent emotion recognition and classification system. In *2021 International Conference on Frontiers of Information Technology (FIT)* (pp. 25-30). IEEE.
11. A. Raza, **Z. Saeed,** A. Aslam, S. M. Nizami, K. Habib and A. N. Malik (2024). Advances, Application and Challenges of Lithography Techniques. In *2024 International Conference on Advancements in Computational Sciences (ICACS)*. IEEE.

Under Review:

1. An Attention-Enhanced UNET Framework for Optimized Tumor and Organ-at-Risk Delineation in Clinical CTs. In *Transaction on Intelligence Systems and Technology.*
2. Smart Agriculture: IoT-Assisted UGV Prototype for Automated Plant Disease Detection and Monitoring. In *IEEE Open Journal of the Computer Society.*
3. Exploring Quantum Machine Learning in Solving Complex Optimization Problems: Algorithms and Insights. In *Quantum Information Processing.*