

SYED, MUHAMMAD ZAIGHAM ABBAS SHAH

ACHIEVEMENTS AND AWARDS

Artificial Intelligence Competitions

5th Activity and Behaviour Computing Challenge at the 5th International Conference on Activity and Behavior Computing, 2023

Top Five: Forecasting Parkinson's Disease Patients' Wearing-Off Phenomenon

ACII Affective Vocal Bursts (A-VB) at IEEE Affective Computing and Intelligent Interaction Conference, 2022.

Second Position: Vocal Bursts classification sub-task

Project and Travel Grants

TNE Exploratory Grants by British Council, 2024

Role: Co-PI

Project Name: Strathclyde-ELEVATE Pakistan

A grant of **GBP 25,000** to implement the Vertically Integrated Projects (VIP) program for Sustainable Development and Climate Change Resilience at Mehran University of Engineering and Technology partnering with the University of Strathclyde, UK and Georgia Institute of Technology, USA

TNE Exploratory Grants by British Council, 2024

Role: Co-PI

Project Name: Drones for Climate Action and Resilience Exchange (D-CARE)

A grant of **GBP 25,000** to enable capacity building at Mehran University of Engineering and Technology for the use of drones for various climate change resilience applications. We are partnering with the University of Ulster, UK

EPICS in IEEE, 2024

Role: PI

Project name: CAPTURE - Citywide Assessment and Pollution Tracking for Urban Resilience and Environment

A grant of **Rs. 1.44** million to develop state of the art environmental monitoring nodes for air pollution measurement and mapping as well as portable water quality measurement devices.

University of Louisville, USA, 2022

Graduate Student Council Travel Grant to attend Oxford Machine Learning Summer School for Finance

SCHOLARSHIPS

April 2022

CSE Arthur M. Riehl Award by the University of Louisville. The award is given to a graduate/professional student with excellent academic performance and contributions to the department activities

Aug. 2018 – Dec 2022

Fulbright Scholarship by the Fulbright Commission to study a PhD in Computer Science and Engineering at the University of Louisville, USA. The scholarship covered tuition fees, a monthly stipend as well as air travel.

June 2012

Best Engineer Award in Academics by IEEE Hyderabad Section

Sept. 2012 - Sept. 2013

Commonwealth Shared Scholarship by UK Department For International Development (DFID) to pursue one year MSc in Electronic and Electrical Engineering at the University of Strathclyde, Glasgow. United Kingdom. The scholarship covered tuition fees, a monthly stipend as well as air travel.

Jan 2011

Silver Medal for being first during B. Engg studies.

Dec. 2006 - Dec. 2009

Merit Scholarship by Mehran University of Engineering & Technology, during the four-year undergraduate degree. The scholarship provided a "token" monetary award in recognition of my academic performance during the undergraduate study.

EDUCATION

Aug. 2018 – Dec. 2022

Doctor of Philosophy (P.h.D.) Computer Science and Engineering

University of Louisville, Kentucky, USA

Sept. 2012 – Sept. 2013

Master of Science (MSc.) Electronic and Electrical Engineering

Distinction (81.4%)

University of Strathclyde, Glasgow, United Kingdom

Jan. 2006 – March 2010

Bachelor of Engineering (B. Engg.) in Electronic Engineering

with 1st Position (90.87%)

Mehran University of Engineering and Technology, Jamshoro, Sindh

WORK & EXPERIENCE

Dec. 2024 to present

Associate Professor

Department of Electronics Engineering,
Mehran University of Engineering and Technology,
Jamshoro, Pakistan.

Responsibilities:

- Academic/industrial research and development.
- Designing, developing, and delivering lectures, workshops, and tutorials.
- Supervising postgraduate and undergraduate student projects.
- Evaluating and marking student exams and assignments.
- Contributing to the Department's software consultancy services for industries and partners.
- Convener of the departmental Final Year Project Committee (FYPC).
- Member of the departmental Outcome Based Education

(OBE) Committee (CRC).

- Member of the departmental Curriculum Review Committee (CRC).
- In Charge of the *Power Electronics* and Drivers Laboratory at the Department.
- Departmental Academic Councilor for guiding Summer Semester registration of students.
- Departmental Coordinator for ORIC.

Mach 2015 - July 2018 and Dec. 2022 to Dec. 2024

Assistant Professor

Department of Electronics Engineering,
Mehran University of Engineering and Technology,
Jamshoro, Pakistan.

Responsibilities:

- Academic/industrial research and development.
- Designing, developing, and delivering lectures, workshops, and tutorials.
- Supervising postgraduate and undergraduate student projects.
- Evaluating and marking student exams and assignments.
- Contributing to the Department's software consultancy services for industries and partners.
- Convener of the departmental Final Year Project Committee (FYPC).
- Member of the departmental Outcome Based Education (OBE) Committee (CRC).
- Member of the departmental Curriculum Review Committee (CRC).
- In Charge of the *Power Electronics* and Drivers Laboratory at the Department.
- Departmental Academic Councilor for guiding Summer Semester registration of students.
- Departmental Coordinator for ORIC.

Subjects Taught: Measurements and Instrumentation, Digital Signal Processing, Digital Instrumentation System, Embedded System Design, Advanced Embedded System Design, Embedded Operating System.

July 2010 - Mach 2015

(On contract basis: July 2010 - May 2011
Regular Appointment: May 2011 - date)

Lecturer

Department of Electronics Engineering,
Mehran University of Engineering and Technology,
Jamshoro, Pakistan.

Responsibilities:

- Designing, developing, and delivering lectures, workshops, and tutorials.
- Supervising undergraduate student projects.
- Evaluating and marking student exams and assignments.
- In Charge of the *Basic Electronics Laboratory* and *Advanced Computer Applications Laboratory* at the Department.

Subjects Taught: Electronics Workshop, Digital Instrumentation Systems, Electromagnetic Waves and Radiating Systems, Microprocessors, Microcontrollers and Applications.

Dec. 2006– Jan. 2007

Intern

Department of Electronic Engineering,
Mehran University of Engineering and Technology,
Jamshoro, Pakistan.

PROFESSIONAL ACTIVITIES & MEMBERSHIPS

- Incharge
Power Electronics and Drivers Laboratory,
Department of Electronics Engineering,
Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan
- Member, Institute of Electrical and Electronic Engineers, USA
- Member, Institution of Engineers, Pakistan (Electro-M/17641)
- Registered Engineer, Pakistan Engineering Council
- Member, National Engineers (Pakistan)

COMMITTEE APPOINTMENTS/POSITIONS HELD

May. 2024 (Ongoing)	Departmental Academic Councilor for dealing with students regarding Summer Semesters.
May. 2024 (Ongoing)	Departmental Focal Person for the Office for Research, Industry and Commercialization (ORIC).
May. 2024 (Ongoing)	Associate Editor Mehran University Research Journal of Engineering and Technology.
March. 2024 (Ongoing)	Vice-Chair, IEEE Industrial Electronics Society (IES), Karachi Chapter.
May. 2024 (Ongoing)	Advisor, IEEE Industrial Electronics Society (IES) Chapter, MUET.
December. 2023 (Ongoing)	Member, <i>Outcome Based Education (OBE) Committee</i> of the Department of Electronic Engineering MUET.
November. 2023 (Ongoing)	Member, <i>Curriculum Review Committee (CRC)</i> of the Department of Electronic Engineering MUET.
January. 2023 (Ongoing)	Convener, <i>Final Year Project Committee (FYPC)</i> of the Department of Electronic Engineering MUET.
January. 2019 – December 2021	Departmental Representative for Computer Science and

TECHNICAL SKILLS

Programming and system development

- C for Embedded Systems (PIC Microcontrollers, 8051 Microcontrollers, Arduino)
- Python and various modules (Numpy, Pandas, Scikit Learn, Tensorflow)

Simulation and Modeling

- Matlab and Simulink
- LabVIEW and various toolkits
- Proteus
- LTSpice
- Multisim

CERTIFICATES

2022	OxML 2022 – Oxford Machine Learning Summer School for Finance 2022 AI for Global Goals in collaboration with University of Oxford, UK
2021	Connected Everything – Summer School 2021 University of Leeds, UK
2020	Data Science Certificate University of Louisville, Kentucky, USA
2020	Deep Learning Specialization (5 courses) • Neural Networks and Deep Learning • Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization • Structuring Machine Learning Projects • Convolutional Neural Networks • Sequence Models • Deep Learning.ai (Coursera)
2020	Statistical Inference John Hopkins University (Coursera)
2020	Cracking the Creativity Code: Discovering Ideas Technion-Israel Institute of Technology (Coursera)
2020	From Idea to Startup: Delivering Ideas Technion-Israel Institute of Technology (Coursera)
2020	Innovation Career Lessons from a Master Technion-Israel Institute of Technology (Coursera)
2020	What is Data Science IBM (Coursera)
2020	Tools for Data Science IBM (Coursera)
2019	DEV204.1X: Introduction to C# Microsoft (EdX)

EVENTS AND WORKSHOPS*Organiser/Coordinator*

- Worked as an Organizer in the Final Year Project Exhibition 2023 held in the Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the MUET Model United Nations 2023 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the MUET Sports Week 2018 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the MUET Model United Nations 2018 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in MUET Carnival part of MUET Gala 2017 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the MUET Model United Nations 2017 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the MUET Model United Nations 2016 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as a coordinator in 1st International Workshop on Embedded Systems and its Applications held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in MUET Carnival part of MUET Gala 2015 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the Final Year Project Exhibition 2015 held in the Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the Muet Model United Nations 2015 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the 29th IEEEEP All Pakistan Students Seminar 2014 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the Final Year Project Exhibition 2014 held in the Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as a Coordinator in the Winter Internship Program 2013 held in the Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the IEEE Pakistan Student, GOLD & WIE Congress 2013 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as a Coordinator in the Two days hands-on workshop on Silicon Labs Microcontrollers using C Language 2012 held in the Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the One day Seminar on Boom Your Career 2012 held at Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as a Coordinator in the National Engineering Exhibition 2011 and National Workshop on Problem Based Learning held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in the Student Conference on Engineering Science and Technology 2011 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in Ecotronics 2011 held at Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan

- Worked as an Organizer in Research Paper Competition 2010 held at Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Worked as an Organizer in LAN Gaming Competition 2010 held at Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan

Trainings

- Attended Training session on Test and Measurement Equipment's of Agilent Technologies Inc. held on 3rd May 2012
- Attended 3 day Certificate Training Course on Field Programmable Gate Array (FPGA) held from 13th to 15th March 2009 at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Attended 5 week Certificate Training Course on Programmable Logic Controllers held from 12th July to 17th Aug. 2008 at Technomen Institute of Computer Science and Engineering, Karachi, Pakistan
- Attended 5 week Certificate Training Course on Microcontroller and its Industrial Applications held from 3rd July to 11th Aug. 2008 at Technomen Institute of Computer Science and Engineering, Karachi, Pakistan

Judge

- Participated as a Judge in IEEE Explosion 2014 held on 14th October 2014 at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Participated as a Judge in Micromaze 2011 held on 21st April 2011 at Department of Electronic and Biomedical Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan

Participation

- Participated in the 29th IEEE Multi-topic International Symposium held from 26th to 27th March 2014 in Karachi, Pakistan
- Participated in the Pakistan National Student Satellite-1 (PNSS-1) Seminar held from 19th to 20th Feb. 2014 held in Suparco, Karachi, Pakistan
- Attended workshop VHDL for Hardware Synthesis & FPGA Design held from 16th to 17th March 2012 held at Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Participated in the 25th IEEE All Pakistan Students Seminar held on 3rd March 2010 at Bahria University, Karachi
- Attended workshop on Wireless Sensor networks: From Technology to Reality held on 13th March 2008 under auspices of IMTIC 08 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan
- Attended workshop on Instrumentation Interface Design for Automation in Research and Industry & Seminar on Leadership and Time Management held on 10th Sept. 2007 held at Mehran University of Engineering and Technology, Jamshoro, Pakistan

Resource Person

- Conducted laboratory sessions in the 3 day International Workshop on Embedded Systems and its Applications held at Mehran University of Engineering and Technology from 3rd-5th March 2015
- Delivered guest lecture on Structural Health Monitoring and PIC Microcontrollers and their Versatility on 16th April 2010 at Department of Electronic Engineering, Mehran University of Engineering and Technology, Jamshoro, Pakistan

STUDENT SUPERVISIONS

Doctor of Philosophy

Ongoing

1. Junaid Ahmed, "AI-Driven Strategies For Deception Detection: Exploring Vocal, Textual, And Visual Indicators", Dr. Syed M. Shehram Shah, Dr. Zafi Sherhan Shah and Dr. Muhammad Zaigham Abbas Shah

Masters in Engineering

Ongoing

1. Mehak Fiza, "Automated Sleep Staging Through Physiological Sensor Analysis", Dr. Muhammad Zaigham Abbas Shah and Dr. Muhammad Shehram Shah
2. Syed Ali Abbas Shah, "Detection of Wearing-Off phenomenon in Parkinson's Disease Patients through Inertial Sensor data", Dr. Muhammad Zaigham Abbas Shah and Dr. Muhammad Shehram Shah
3. Zahid Ali, "Depression Screening of Reddit Posts by leveraging Chat GPT and Text Classification", Dr. Zafi Sherhan Shah and Dr. Muhammad Zaigham Abbas Shah

Completed

1. Aftab Ahmed Mangrio, "IoT Enabled Art Gallery Monitoring System", Dr. Wanod Kumar and Muhammad Zaigham Abbas Shah
2. Muhammad Ahmer, "Detecting Activities of Daily Living from Inertial Sensors Using Non-Linear Support Vector Machines", Prof. Dr. Bhawani Shankar Chowdhry and M. Zaigham Abbas Shah
3. Muhammad Awais Memon, "Agricultural Data Acquisition Device for Decision Support System", Dr. Noor-Uz-Zaman Laghari and Muhammad Zaigham Abbas
4. Ghulam Din, "Development of Monitoring System for Indoor Homecare of Elderly", Muhammad Zaigham Abbas Shah and Syed Naveed Jafri
5. Irfanullah Khan, "Design and Simulation of Anti-Lock Braking System based on Electromagnetic Phenomenon", Dr. Imtiaz Kalwar and Muhammad Zaigham Abbas Shah
6. Koonj Tagar, "Biometric System based on Facial and Fingerprint Identification", Dr. Wajiha Shah and Muhammad Zaigham Abbas Shah
7. Muhammad Ali Khan, "Specific Object Tracking and Monitoring System Based on Computer Vision", Dr. Wajiha Shah and Muhammad Zaigham Abbas Shah
8. Jameel Ahmed, "Detection of Brain Tumor from MRI Images Using Fusion Method" Dr. Noor-Uz-Zaman Laghari and Muhammad Zaigham Abbas
9. Usman Ali, "Privacy Preserving: Secure Multiple Mix Zone for Location Based Services Over Road Network", Prof. Dr. Bhawani Shankar Chowdhry and M. Zaigham Abbas Shah
10. Wafa Memon, Monocular Camera Based Driver Vigilance Detection Using Computer Vision", Prof. Dr. Bhawani Shankar Chowdhry and M. Zaigham Abbas Shah
11. Maria Panhwar, "Robust Fall Detection through Inertial Sensors of Smart phone", Prof. Dr. Bhawani Shankar Chowdhry and M. Zaigham Abbas Shah

12. Usman Ayaz, "Driver Distraction Detection for Vision Based Advanced Driver Assistance Systems", Muhammad Zaigham Abbas Shah and Dr. Fahim Aziz Umrani
13. Muhammad Taimoor, "Content Based Image Identification", Dr. Wajiha Shah and Muhammad Zaigham Abbas Shah
14. Shoaib Hassan, "Hardware Synthesize of Digital Up/Down Converter and its Performance Analysis for Communication System", Dr. Tayyab Din Memon and Muhammad Zaigham Abbas Shah
15. Muhammad Saeed, "Detection of Ventricular Arrhythmia from ECG", Dr. Imtiaz Kalwar and Muhammad Zaigham Abbas Shah
16. Rizwan Ali, "Real time rail-road monitoring using inertial sensors" Dr. Imtiaz Kalwar and Muhammad Zaigham Abbas Shah

PUBLICATIONS

Journal

1. **Abbas Shah Syed.**, Aron Patrick., Adrian Lauf., Adel Elmaghraby., "Assessing the Complementarity of Wind and Solar Energy in Kentucky," in *MDPI Energies*, vol. 17, no.13, pp. 3226, 2024.
2. R. Qureshi, M. Irfan, H. Ali, A. Khan, A.S. Nittala, S. Ali, **Abbas Shah et al.**, "Artificial Intelligence and Biosensors in Healthcare and Its Clinical Relevance: A Review," in *IEEE Access*, vol. 11, pp. 61600-61620, 2023, doi: 10.1109/ACCESS.2023.3285596.
3. **Abbas Shah Syed**, Daniel Sierra-Sosa, Anup Kumar, and Adel Elmaghraby. "Making Cities Smarter—Optimization Problems for the IoT Enabled Smart City Development: A Mapping of Applications, Objectives, Constraints." *Sensors vol 22*, no. 12. pp. 4380. 2022
4. Patoli Aijaz, Muhammad Shehram Shah Syed, **Abbas Syed**, and Zafi Sherhan Syed. "Artificial Intelligence in Aid Efficient Mental Healthcare in context of State-of-the-art Sir Cowasjee Mental Health Institute at Hyderabad Sindh Pakistan." *Liaquat Medical Research Journal* vol. 4, no. 1 (2022): 49-54. <https://doi.org/10.38106/LMRJ.2022.4.1-09>.
5. **Abbas Shah Syed**, Daniel Sierra-Sosa, Anup Kumar, and Adel S. Elmaghraby. "A Deep Convolutional Neural Network-XGB for Direction and Severity Aware Fall Detection and Activity Recognition." *Sensors* vol. 22, no.7, pp. 2547. 2021
6. **Abbas Shah Syed**, Daniel Sierra-Sosa, Anup Kumar, and Adel S. Elmaghraby. "A hierarchical approach to activity recognition and fall detection using wavelets and adaptive pooling." *Sensors* vol. 21, no.19, pp. 6653. 2021
7. Zafi Sherhan Syed, **M. Z. Abbas Shah Syed**, Muhammad Shehram Shah, and Aunsa Shah. "Sequential modeling for the recognition of activities in logistics." *Sukkur IBA Journal of Emerging Technologies (SJET)*, vol. 4, no.1, pp. 12-21. 2021
8. **Abbas Shah Syed**, Daniel Sierra-Sosa, Anup Kumar, and Adel S. Elmaghraby. "IoT in Smart Cities: A Survey of Technologies, Practices and Challenges." *Smart Cities* vol. 4, no.2, pp. 429-475. 2021
9. **Abbas Shah Syed**, Zafi Sherhan Syed and Areez Khalil Memon. "Continuous Human Activity Recognition in Logistics from Inertial Sensor Data using Temporal Convolutions in CNN." *International Journal of Advanced Computer Science and Applications* vol. 11, no. 10, pp. 597-602, 2020

10. **Abbas Shah Syed**, Zafi Sherhan Syed, Muhammad Shehram Shah and Salahuddin Saddar. " Using Wearable Sensors for Human Activity Recognition in Logistics: A Comparison of Different Feature Sets and Machine Learning Algorithms." *International Journal of Advanced Computer Science and Applications* vol. 11, no. 9, pp. 644-649, 2020
11. Zafi Sherhan Syed, Muhammad Shehram Shah and **Abbas Shah Syed**. " Automated Recognition of Sincere Apologies from Acoustics of Speech." *International Journal of Advanced Computer Science and Applications* vol. 11, no. 6, pp. 649-654, 2020
12. Zafi Sherhan Syed, Sajjad Ali Memon, Muhammad Shehram Shah and **Abbas Shah Syed**. "Introducing the Urdu-Sindhi Speech Emotion Corpus: A novel dataset of speech recordings for emotion recognition for two low-resource languages." *International Journal of Advanced Computer Science and Applications* vol. 11, no. 4, pp. 805-810, 2020
13. A. Baqai, K. Memon, A. R. Memon, and **S. M. Z. A. Shah**, "Interactive Physiotherapy: An Application Based on Virtual Reality and Bio-feedback," *Wireless Personal Communication*, vol. 106, no. 4, pp. 1719–1741. 2019
14. Muhammad Ahmer, **M. Z. Abbas Shah**, Syed M. Zafi S. Shah, Syed. M. Shehram Shah, Bhawani Shankar Chowdhry, Aunsa Shah and Khadim Hussain Bhatti "Using Non-Linear Support Vector Machines for Detection of Activities of Daily Living." *Indian Journal of Science and Technology*, vol. 10, no. 36, pp. 1-8. 2017
15. Maria Panhwar, Syed M. Shehram Shah, Syed M. Zafi S. Shah, **Syed M. Z. Abbas Shah** and Bhawani Shankar Chowdhry " Smart Phone Based Fall Detection using Auto Regression Modeling in a Non-Restrictive Setting." *Indian Journal of Science and Technology*, vol. 10, no. 5, pp. 1-6. 2017
16. Asma Channa, Syed **M. Z. Abbas Shah**, A. A. Patoli, Azam Rafique Memon and Mansoor Ali Teevno" A Hierarchical Approach to Home Energy Management Systems." *Indian Journal of Science and Technology*, vol. 9, no. 47, pp. 1-6. 2017
17. A. Baqai, A. R. Memon, K. Memon & **S. M. Z. A. Shah**, "Kinect as a Generalised Interface for Games and PC Control" *Wireless Personal Communication*, vol. 95, no. 2, pp. 617–629, July 2017
18. **S. M. Z. A. Shah**, S. Marshall & P. Murray, "Removal of specular reflections from image sequences using feature correspondences," *Machine Vision & Applications*, vol. 28, no. 3-4, pp. 409–420, May 2017
19. M. S. Rattar, S. M. S. Shah, B.S. Chowdhry & **S. M. Z. A. Shah**, "Detection of Ventricular Arrhythmia from ECG" *Pakistan Journal of Computer and Information Systems (PJICIS)*, vol. 1, no. 1, pp. 17-28, October 2016
20. Chowdhry, B. S., S. M. Z. S. Shah, and **S. M. Z. A. Shah**. "A implementation framework for Tutorial Based Learning (TBL)." *WSEAS Transactions on Advances in Engineering Education*, vol. 11, no. 1, pp. 66-72, 2014

Book/Book Chapters

1. J. Skibińska, **M. Z. A. Shah**, A. Channa, M. S. S. Syed, Z. S. Syed, and J. Hosek, Foreseeing Wearing-Off State in Parkinson's Disease Patients: A Multimodal Approach with the Usage of

Machine Learning and Wearables. In Activity, Behavior, and Healthcare Computing, pp. 286-299. 2025 CRC Press. (Book Chapter)

2. Zafi Sherhan Shah, Faisal Karim Shaikh, Shehram Shah and **Abbas Shah**, *Visual Analytics for Automated Behavior Understanding in Learning Environments: A Review of Opportunities, Emerging Methods, and Challenges* In *Intelligent Video Analytics: Clustering and Classification Applications*. CRC Press, 2022. pp. 221-250 (Book Chapter)
3. B. S. Chowdhry, A. A. Ursani and **S. M. Z. A. Shah**, *The First Practical Book on Electronics Workshop: Can't Beat a Practical Approach!*. Denmark: River Publishers, 2014. ISBN: 9788793102477

Conference Proceedings

1. Justyna Skibińska, **Abbas Shah Syed**, Zafi Sherhan Shah, Shehram Shah Syed and Junaid Ahmed Baloch, "Pose-Driven Anomaly Detection in Human Behavior with Machine Learning." 2025 International Symposium on Innovative Approaches in Smart Technologies (ISAS), October 17, HCMC, Vietnam. (accepted)
2. Justyna Skibińska, **Abbas Shah Syed**, Zafi Sherhan Shah, Shehram Shah Syed, Junaid Baloch, Affan Affan, "Addressing the ICIEV 2025 Tremor Challenge: Leveraging Explainable AI for Advanced Parkinson's Disease Movement Analysis." 12th International Conference on Informatics, Electronics and Vision, May. 26-29, 2025, Kitakyushu, Japan (Presented)
3. Muhammad Usman Hadi, Rajkamal Rajathanakodi, Cara Rose, Muhammad Shehram Shah Syed, and **Abbas Shah Syed**, "Enhancing Climate Resilience and Disaster Management with IoT-Driven MADNI". In Proceedings of the International Conference on Emerging Technologies in Engineering and Computer Science (ICETECC), Mehran University of Engineering & Technology, Jamshoro, Pakistan. 23-25 April, 2025
4. Justyna Skibińska, **Abbas Shah Syed**, Asma Channa, Zafi Sherhan Shah, and Shehram Shah Syed, "Recognising Depression Using Facial and Cephalic Feature Extractors with Machine Learning: Answer to BeyondSmile Challenge." *2025 International Conference on Activity and Behavior Computing (ABC)*, pp. 1-11. IEEE, 2025.
5. Cara Rose, **Abbas Shah**, Robert McMurray and Muhammad Usman Hadi, "Digital Twin-Driven Hybrid Control for MADNI Stability in Adverse Conditions", 26th International Multi Topic Conference (INMIC), December 2024
6. Muhammad Usman Hadi, **Abbas Shah**, Muhammad Ijaz, "Experimental Validation of Nonlinearity Mitigation in Analog Radio over Fiber for upcoming 6G Networks Using MSA-Based Digital Predistortion", 26th International Multi Topic Conference (INMIC), December 2024
7. Muhammad Bilal, Aadil Mughal, Tayyaba Fatima, Zafi Sherhan Syed, **Zaigham Abbas Shah**, and Hasnain Mahboob , "Speech Emotion Recognition in Pakistani-Accented English Language", in 17th International Conference on Open Source Systems and Technologies (ICOSST), pp. 1-4, 2023.
8. Saba Bashir, Rizwan Qureshi, **Abbas Shah**, Xinqi Fan, and Tanvir Alam, "YOLOv5-M: A Deep

Network for Medical Object Detection in Real-time”, 2023 IEEE Symposium on Industrial Electronics & Applications (ISIEA) 2023, 15-16 July. 2023, Kuala Lumpur, Malaysia, 2023.

9. **A. S. Syed**, D. Sierra-Sosa, A. Kumar and A. S. Elmaghraby, "Cross dataset non-binary fall detection using a ConvLSTM-attention network," *2022 IEEE Globecom Workshops (GC Wkshps)*, Rio de Janeiro, Brazil, 2022, pp. 1068-1073
10. Olusiji O Medaiyese, **Abbas Syed** and Adrian P Lauf, "Machine Learning Framework for RF-Based Drone Detection and Identification System", 2nd International Conference On Smart Cities, Automation & Intelligent Computing Systems (ICON-SONICS) 2021, 12-13 Oct. 2021, Tangerang, Indonesia, 2021.
11. **Abbas Shah Syed**, Anup Kumar, Daniel Sierra-Sosa, and Adel S. Elmaghraby, "Determining Fall direction and severity using SVMs", Abbas Shah Syed, IEEE International Symposium on Signal Processing and Information Technology 2020 (ISSPIT20), 9-11 Dec. 2020, Louisville, KY, USA, 2020.
12. I. Khan, I. H. Kalwar, **S. M. Z. A. Shah**, Kamran Kazi and A. A. Patoli, "Design and simulation of ABS based on Electromagnetic damping phenomena", *International Conference on Latest trends in Electrical Engineering & Computing Technologies 2017 (INTELLECT 2017)*, 15-16 Nov. 2017 .
13. K. R. Memon, S. Memon, B. Memon, A. R. Memon & **S. M. Z. A. Shah**, "Real time implementation of path planning algorithm with obstacle avoidance for autonomous vehicle," *3rd International Conference on Computing for Sustainable Global Development 2016 (INDIACom 2016)*, pp. 2048-2053, 16-18 March 2016, New Delhi, India.
14. A.R. Memon, B.S. Chowdhry, S.M. S. Shah, T.R. Memon & **S. M. Z. Abbas Shah**, "An electronic information desk system for information dissemination in educational institutions," *2nd International Conference on Computing for Sustainable Global Development 2015 (INDIACom 2015)*, pp.1275-1280, 11-13 March 2015, New Delhi, India.
15. B. S. Chowdhry, S. M. Z. S. Shah & **S. M. A. Shah**, "A Tutorial Based Learning Model (TBL) for Engineering Students: the best they can get", *International Conference on Educational Technologies and Education 2014*, pp. 102-106, 22-24 Feb 2014, Interlaken, Switzerland.
16. S. M. Z. S. Shah, A.W. Umrani, A.A. Memon & **S. M. Z. A. Shah**, "PMEPR reduction for OFCDM using SLM and PTS," *19th IEEE International Conference on Electronics, Circuits and Systems 2012 (ICECS 2012)*, pp.308-311, 9-12 Dec. 2012, Seville, Spain.

Oral Presentation

1. **S. M. Z. A. Shah**, "Design of a Low Cost Structural Health Monitoring System" at the 25th IEEEEP All Pakistan Students Seminar, 3 March 2010, Karachi, Pakistan

LANGUAGES

Fluent in English, Sindhi and Urdu.

EXTRACURRICULAR ACTIVITIES

Cycling, Volunteer work, Reading, Travelling

PERSONAL INFORMATION

Name	Syed Muhammad Zaigham Abbas Shah
Date of birth	06-10-1987
Postal Address	<i>office</i> Department of Electronics Engineering, Mehran University of Engineering and Technology, Jamshoro-76062, Sindh, Pakistan.
Email Address	zaigham.shah@faculty.muet.edu.pk
Telephone Number	+92-345-256-6221

REFERENCES**Dr. Adel Elmaghraby**

Professor, Department of Computer Engineering and Computer Science, University of Louisville,
Kentucky

adel.elmaghraby@louisville.edu

Dr. Stephen Marshall

Meritorious Professor, Department of Electronic and Electrical Engineering, University of
Strathclyde, UK

Stephen.marshall@strath.ac.uk

Dr. Paul Murray

Professor, Department of Electronic and Electrical Engineering, University of Strathclyde, UK

Paul.murray@strath.ac.uk