Shahid Munir Shah

Associate Professor, and Chairperson, Department of Computing,
Faculty of Engineering, Science and Technology,
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Research Interest: Artificial Intelligence, Machine Learning, Signal Processing, Medical Imaging

Nationality: Pakistani

Registration and Affiliations:

Higher Education Commission **(HEC)** approved PhD/MS/M.Phil supervisor.

Education:

2014 – 2019	PhD in Information Technology, specialization: Artificial Intelligence / Machine Learning, University of Sindh, Jamshoro , Pakistan.
2011 – 2014	Master of Science (MS), in Telecommunication, specialization: Artificial Intelligence / Machine Learning, Iqra University, Karachi, Pakistan.
2005 – 2008	Masters of Sciences (MSc) in Applied Physic, specialization: Electronics, University of Karachi, Karachi, Pakistan.
2003 – 2005	Bachelor of Science (BSc), Specialization: Mathematics, Statistics, Physics, University of Karachi, Karachi, Pakistan.

Research / Teaching /Professional Experience:

October,2025-Till Date	Professor and Head, Faculty of Computing and Engineering, Science ZABIST Gharo Campus, Pakistan. I am involved in the following tasks: **a)** Teaching undergraduate and graduate courses (Artificial Intelligence, MachineLearning, Core Programming) **b)** Cluster head of different courses and departmental research groups **c)** Member Advisory Boards i.e., Board of Studies, Board of Faculties, Board of Advanced Studies and Research (BASR), Faculty Research Committee (FRC) etc. **d)** Managing team of faculty and Staff **e)** Managing NCEAC accreditation
Feb, 2023-June, 2025	Associate Professor and Chairperson, Department of Computing, Faculty of Engineering, Science and Technology, Hamdard University, Karachi, Pakistan.I am involved in the following tasks: **f)** Teaching undergraduate and graduate courses (Artificial Intelligence, MachineLearning, Core Programming) **g)** Cluster head of different courses and departmental research groups **h)** Member Advisory Boards i.e., Board of Studies, Board of Faculties, Board of Advanced Studies and Research (BASR), Faculty Research Committee (FRC) etc. **i)** Managing team of about 50 faculty and Staff **j)** Managing three differed NCEAC accredited programs i.e. CS (100 intake yearly), SE (100 intake yearly), and AI (50 intake yearly)

Aug, 2022-Feb, 2023 -	Assistant Professor Faculty of Engineering and Applied Sciences, DHA Suffa University, Karachi, Pakistan. I was involved in the following tasks: **a)** In Charge Data Science ProgramFollowing are my responsibilities: (Program related timetable coordination, Examination related timetable coordination, Preparation of academic related documents like BOS, BOF and AC, Administration of class rooms and labs, monitoring of the classes and labs, dealing with parent queries, Students' grievances, and program accreditation related tasks) **b)** Teaching undergraduate and Graduate courses. Following courses, I have taught(C & C++ programming, Introduction to Information and Communication Technologies, Data Structures and Algorithms, Discrete Structures, Statistics, Applied Physics, Theory of Automata, Machine Learning, Artificial Intelligence, Analysis of Algorithms **c)** Member Advisory Boards i.e., Board of Studies, Board of Faculties, BASR etc.
Aug, 2018-Aug, 2022	Assistant Professor Faculty of Information Technology (IT), Salim Habib University(Formerly Barrett Hodgson University), Karachi, Pakistan . I am involved in following tasks: **a)** Teaching undergraduate courses. Following courses, I have taught (C & C++ programming, Introduction to Information and Communication Technologies, DataStructures and Algorithms, Discrete Structures, Statistics, Applied Physics, Theory of Automata) **b)** Member advisory board i.e. Board of Studies, Board of Faculty, UniversityResearch Committee, and Board of Advance Studies and Research. Part of the department research team. **c)** Member of Department Accreditation Committee (NCEAC, IPE, CIEC)
July, 2011 Aug, 2018	Lecturer Department of Physics, Cadet College Petaro, Jamshoro, Sindh, PakistanI was involved in the following tasks: **a)** Teaching intermediate and O & A Level courses (Physics, Mathematics). **b)** Subject Coordinator. **c)** House Master. **d)** Officer in charge of science exhibitions and project Olympiads
Feb, 2007 July, 2018	Lecturer at PakTurk International Schools and Colleges, Karachi, PakistanI was involved in the following tasks: **a)** Teaching intermediate and O & A Level courses (Physics, Mathematics). **b)** Head of Department. **c)** Officer in charge science exhibitions and project Olympiads.
Dec, 2014-March, 2019	PhD research scholar at University of Sindh, Jamshoro , Pakistan. Being a Ph.D. scholar I worked on designing robust speaker recognition systems. While designing a speaker recognition system, there are multiple variability factors that need to be addressed to maximize the efficiency of these systems. These variability factors include but are not limited to external variations (ambient noise, seasonal variations on the collected voice sample, channel variations i.e. different devices have been used to collect training and testing voice data, background voice other than speakers voice, etc.) and speaker's international variations like emotions, health age, and different accents and dialects. I worked on these variabilities to minimize and design a speaker recognition system that is robust against such variability factors. Since each of these variabilities is a separate domain of research, I specifically focused on designing a speaker recognition system robust against accentual and dialectical variations of a speaker. For this purpose, I developed my own dataset because no such specific dataset was available. I proposed a novel approach to address the accent and dialect-related variability from the speech recognition systems. The proposed approach minimizes the effect of accentual and dialectical variations from speaker recognition systems as well as minimizes the system's complexity by reducing the number of speakers during the testing and matching process of speaker identification. Multiple papers

	have been published from my Ph.D. research in reputable Indexed Journals. Also a USA patent published from my Ph.D. research.
Jan, 2011-June, 2014	Masters research scholar at Iqra University, Karachi , Pakistan. Being an MS (master of science candidate, I worked on designing Arabic language-based speaker recognition systems. I specifically worked on different speech features to enhance the recognition accuracy of speaker recognition systems. I published my MS work in the proceedings of an IEEE conference i.e. International Conference on Open-Source Systems and Technology (ICCOST), 2014.

Publications:

Google Scholars Profile: https://scholar.google.com/citations?user=lnsrHtkAAAAJ&hl=en

Scopus Profile: https://www.scopus.com/authid/detail.uri?authorId=57199298521

DBLP Profile: https://dblp.org/pid/216/6817.html

ORCID: https://orcid.org/0000-0002-0953-4055

Publications Summary	
USA Patents	**01**
Total Journal Publications	**16**
Total preprint	**05**
Total Scopus Indexed Conference Publications	**02**
Total Book Chapters	**02**
Publication As first Author	**08**
Publications As Co-Author	**08**
Publications As Corresponding Author	**11**
HEC W Category Publications	**07**
HEC X Category Publications	**05**
HEC Y Category Publications	**04**
Scopus Q1 Publications	**10**
Scopus Q2 Publications	**00**
Scopus Q3 Publications	**01**
Cumulative 5 years JCR impact Factor (source: JCR 2024)	**47.0**
Total Citations	**>600**

USA Patents:

1. Dialect Based Speaker Identification, Muhammad Moinuddin**,** Ubaid Um Al Sagaf, **Shahid Munir Shah**, Rizwan Ahmed Khan, Zahraa Ubaid Alsagaf**, USA patent (11348591), 2022.**

Peer-reviewed journal articles:

1. Mental illness detection through harvesting social media: A comprehensive literature review, **Sahid Munir Shah**, M. M. Aljawarneh, M. Aamer Saleem, M. S. Aljawarneh, *PeerJ Computer Science*, 10:e2296, 2024 **(ISSN: 2376-5992, JCR 2024 IF=3.8) (HEC W Category) (DOI: https://doi.org/10.7717/peerj-cs.2296)**
2. Breast Cancer Classification using Deep Learned Features Boosted with Handcrafted Features, Unaiza Sajid, Rizwan Ahmed Khan, **Shahid Munir Shah,** Sheeraz Arif, *Biomedical Signal Processing and Control, 2023* **(ISSN: 1746-809, JCR 2024IF=4.9) (HEC W Category) (DOI: https://doi.org/10.1016/j.bspc.2023.105353)**
3. Multi-user conflict resolution mechanisms for smart home environments, Mahmoud Aljawarneh, **Shahid Munir Shah**, Lachhman Das Domejha, Yasir Arafat, *PeerJ Computer Science*, 9:e1443, 2023 **(ISSN: 2376-5992, JCR 2024 IF=3.8) (HEC W Category)**

DOI: https://doi.org/10.7717/peerj-cs.1443)

4. A Robust Approach for Speaker Identification using Dialect Information, **Shahid Munir Shah**, Muhammad Moinuddin, and Rizwan Ahmed Khan, *Applied Computational Intelligence and Soft Computing*, 2022. **(ISSN: 1687-9724, JCR 2024 IF=2.9) (HEC X Category) (DOI: https://doi.org/10.1155/2022/4980920)**
5. Artificial Intelligence For Breast Cancer Detection: Trends & Directions, **Shahid Munir Shah**, Rizwan Ahmend Khan, Sheeraz Arif, Unaiza Sajid, *Computers in biology and medicine*, 142, 2022. **(ISSN: 0010-4825, JCR-2024 IF=6.3) (HEC W Category)**
(DOI: https://doi.org/10.1016/j.compbiomed.2022.105221)
6. Development of a Regional Voice Dataset and Speaker Classification Based onMachine Learning, M. Ismail, S.Memon, L. Das, **Shahid Munir Shah**, D. Hussain and M. Imran, *Journal of Big Data*, 8, 2021. **(ISSN: 2196-1115, JCR 2024 IF = 13.4) (HEC W Category)**
(DOI: https://doi.org/10.1186/s40537-021-00435-9)
7. Secondary Use of Electronic Health Record: Opportunities and Challenges, **Shahid Munir Shah**, Rizwan Ahmed Khan, *IEEE Access*, 8, 136947 – 136965, 2020. **(ISSN: 2169-3536, JCR 2024 IF=3.6) (HEC W Category)**
DOI: 10.1109/ACCESS.2020.3011099)
8. Pashto isolated digit recognition using accent and dialect approach, **Shahid Munir Shah**, M. Hammad, M. Memon, *Journal of Engineering Science and Technology (JESTEC)*, 15 (4), 2190-2207, 2020. **(ISSN: 1823-4690, JCR 2024 IF=0.6) (HEC X Category)**
(DOI: https://shorturl.at/Oec56)
9. A Pashtu Speakers Database using Accent and Dialect Approach, **Shahid Munir Shah**, Shahzad Ahmed Memon, Khalil Khoumbati, Muhammad Moinuddin, *International Journal of Applied Pattern Recognition*, 4 (4), 358- 380, 2018. **(ISSN: 2049-887X, JCR 2024 IF=0.7) (HEC X Category)**

   (DOI: https://doi.org/10.1504/IJAPR.2017.089398)
10. Synthesizing Realistic Images for Improved Early Detection of Novel Pandemics: A GAN-Enabled Approach, Sumaira Rounaq, **Shahid Munir Shah**, Mahmoud Aljawarneh, Sarah Khan, Ghulam Muhammad, *Heliyon, 11(6), e42711, 2025.* **(ISSN: 2405-8440, JCR 2024 IF=3.4)(HEC W Category)**

    (DOI: https://doi.org/10.1016/j.heliyon.2025.e42711)
11. Advancing Depression Detection on Social Media Platforms Through Fine-Tuned Large Language Models, **Shahid Munir Shah**, Mirza Samad, Ansharah Gailani, Muhammad Aamer Saleem, Online Social Networks and Media, 46, 100311, 2025. **(ISSN: 2705-1056, JCR 2024 IF=2.9) (DOI: https://doi.org/10.1016/j.osnem.2025.100311) (HEC X Category)**
12. Rib bone extraction towards liver isolating in CT scans using Active Contour segmentation, Mahmoud Saleh Jawarneh, **Shahid Munir Shah**, Mahmoud Muhammad Aljawarneh, International Journal of Advanced Computer Science and Applications, 16 (4), 2025 **(ISSN: 2158-107X, JCR 2024 IF=0.7) (HEC X Category)**

    (DOI: 10.14569/IJACSA.2025.0160497)

Pre Print:

1. AI-based Wearable Vision Assistance System for the Visually Impaired: Integrating Real-Time Object Recognition and Contextual Understanding Using Large Vision-Language Models, Mirza Samad Ahmed Baig, Syeda Anshrah Gillani, **Shahid Munir Shah**, Mahmoud Aljawarneh, Abdul Akbar Khan, Muhammad Hamzah Siddiqui.
   (DOI: https://doi.org/10.48550/arXiv.2412.2005)

2. A hybrid approach for covid-19 detection: Combining wasserstein gan with transfer learning, Sumera Rounaq, Shahid Munir Shah, Mahmoud Aljawarneh, Sarah Khan, Ghulam Muhammad.
   (DOI: https://doi.org/10.48550/arXiv.2411.06397)

3. AttentionDrop: A Novel Regularization Method for Transformer Models, Mirza Samad Ahmed Baig, Syeda Anshrah Gillani, Abdul Akbar Khan, Shahid Munir Shah.
   (DOI: ttps://doi.org/10.48550/arXiv.2504.12088

4. Performance Evaluation of Deep Learning Models for Water Quality Index Prediction: A Comparative Study of LSTM, TCN, ANN, and MLP, Muhammad Ismail, Farkhanda Abbas, Shahid Munir Shah, Mahmoud Aljawarneh, Lachhman Das Dhomeja, Fazila Abbas, Muhammad Shoaib, Abdulwahed Fahad Alrefaei, Mohammed Fahad Albeshr.

   (DOI: arXiv preprint arXiv:2411.01527)

5. **Empowering End-Users: A Framework for Intuitive Composition and Adaptation of Services in Pervasive Computing Environments,** Mahmoud M. Aljawarneh, Lachhman Das Dhomeja, Shahid Munir Shah, Yasir Arafat malkani, Mahmoud S. Jawarneh, Ahmed Ali Otoom, Qais AlNa'amneh.

   (Available at: https://ssrn.com/abstract=5295800)

Peer-reviewed international conferences:

1. Speaker Recognition System For Arabic Speakers Using Combination of DWT and LPC, **Shahid Munir Shah**, Syed Nadeem Ahsan, Proceedings of IEEE, 2014.

2. Comparing ANN and SVM Algorithms for Predicting Exercise Routines of Diabetic Patients, Anwar Ahmed Khan, Shamma Siddiqui, **Shahid Munir Shah**, Indrakshi Dey, Fareed Nait-Abdesselam, IWCMC, 2021.

Book Chapters:

1. Enhancing IoT Security RPL Attack Detection Using Sine Cosine Algorithm with XGBoost, IGI global, 2025: DOI: 10.4018/979-8-3693-8014-7

2. Cryptography, Biometrics, and Anonymity in Cybersecurity Management, IGI Global, 2025: DOI: 10.4018/979-8-3693-8014-7

Programming Skills: meznpkka

C, C++ (Core Programming)
Python (Libraries: Pandas, Numpy, Matplotlib, Seaborn, NumPy, SciPy, Keras

Subjects Taught:

Intermediate (A-Levels): Mathematics, Physics

Undergraduate (BS-CS, SE, and AI): Introduction to Information and Communication Technology (ICT), Programming Fundamentals (C programming), Object Oriented Programming (C++), Data Structures and Algorithms, Theory of Automata, Discrete Structures, Applied Physics, Artificial Intelligence, Statistics, Machine Learning, Deep Learning.

Graduate (MS-CS): Theory of Automata, Advance Analysis of Algorithms (Indus University, TMUC as a visiting Faculty)

Post Graduate (PhD-CS): Machine Learning (DHA Suffa University as a visiting Faculty, Hamdard University), Machine Learning (Hamdard University, Graduate School)

Trainings and workshops:

- Eighty hours course on Staff Development program by Teachers' developments Centre (TDC), Pakistan (May-June, 2011)
- 15 hours Intensive Teachers' Training course by Bahria Institute of Teachers Training, Pakistan (Nov 25-27, 2013)
- Cambridge International Examination Professional Development Course, Physics (5054), Organized by British Council (April, 2014)
- 09 hours Workshop on Principles of character building conducted by ERDS, Pakistan (August, 12-13, 2015)
- 10 hours Intensive Teachers' Training course by Bahria Institute of Teachers Training, Pakistan (Nov 30 to Dec 01, 2015)
- Cambridge International Examination Professional Development Course, Cambridge AS and A Level Physics (9702), Organized by British Council (April,2015)
- Cambridge International Examination Professional Development Course, Cambridge AS and A Level Physics (9702), Organized by British Council (Sep 29-30, 2016)
- Cambridge International Examination Professional Development Course Physics (5054), Organized by British Council (Aug 18-19, 2016)
- Teachers training on class management by "Lewis School of Teachers TrainingLondon (UK)"

(March, 2018)

- Cambridge Assessment International Examination Professional Development Course, Cambridge AS and A Level Physics (9702) Extension (March, 16-17, 2018) Certificates

Participation in International & National Conferences & Olympiads

- Participated in 3rd International Environmental Project Olympiad (Baku,Azerbaijan, April 1-5, 2009)
- Participated in 5th International Dreamline Design Olympiad (Istanbul,Turkey, May 12-15, 2009)
- Participated in 6th International Environmental Project Olympiad (Baku, Azerbaijan, April 4-8, 2012)
- Participated in 21st International Environmental Project Olympiad (Istanbul, Turkey, May 17-20, 2013)
- Participated in IEEE International conference on Open Source System andTechnologies (ICOSST), 2014
- Participated in National conference on technology and Business Trends,KASBIT, Karachi (2016, 2017)
- Participated in Summer Camp, China (16-30 October, 2017)

Awards and honors

- Appreciation Certificate in excellent performance in Science fair, 2008.
- Best Teacher Award, 2016, Cadet College Petaro, District Jamshoro, Sindh.
- Best Teacher declared at Summer Camp China, 2017.

Reviewer / TPC member

IEEE Access, Journal of Engineering Science and Technology, Computers in Biology and Medicine, Journal of Super Computing, Biomedical Signal Processing and Control, Journal of Radiation Research, Data in Brief, IJAT, and No. of Elsevier and Springer Journals

Member Advisory Boards

1. Member Selection Board, Indus University, Karachi
2. Member BOS, Millennium Institute of Technology and Entrepreneurship (MITE), Karachi.
3. Member BOF, DHA Suffa University, Karachi.

FYP Supervision

1. Virtual Assistant for Dashboard, by CS students Hira Zahra, Laviza Junaid, Hala Fasih, department of CS, Salim Habib University. **The project achieved IGNIT funding, 2021**.
2. Liveness Software Development Kit, by CS students Dheeraj, DHA Suffa University, Karachi, Pakistan, 2022.
3. Cyber Terrorism, the case of Pakistan, by CS students Malik Ziyad, DHA Suffa University, Karachi, Pakistan, 2022.
4. Blockchain Based Autonomous Voting System web application, Talha Amin and Team, Hamdard University, 2024
5. Online Car, Bike mechanic application, Imran Rizvi and team, Hamdard University, 2024.
6. Islamic Companion App., Ayesha Ikram, Hamdard University, 2024.
7. Plagiarism Detection System for Urdu language, Shaheer Muhammad, Hamdard University, 2024.

PhD / M. Phill / MS Co Supervision

1. PhD thesis supervised as co Advisor at University of Sindh, Jamshoro, Pakistan (2020).
   Scholar: Muhammad Ismail
   Thesis Topic: Speaker Verification Service (SVS) Based on Voice Biometrics for Identification and Tracking
   Status: PhD Degree Awarded
2. PhD thesis supervising as co Advisor at University of Sindh, Jamshoro, Pakistan (2021).
   Thesis Topic: S Deep Learning based Real-Time Voice recognition for Digital Forensics applications
   Status: In Progress

3. M.Phill thesis supervised as co Advisor at Hamdard University, Karachi, Pakistan (2024)
4. Supervising 08 MS students (MS) in progress

Additional Information

Languages

English	Fluent
Urdu	Fluent
Punjabi	Intermediate
Pashto	Mother Tongue

References:

1. Professor Dr. Muhammad Moinuddin, Electrical Engineering department, King Abdul-Aziz University, Jeddah, Saudi Arabia,

   Phone: (+966) 533179237,

   E-mail: mmsansari@ksa.sa

2. Professor Dr. Shahzad Ahmed Memon, University of East London, London

   Phone: (+44) 7777627472,

   E-mail: S.Memon@uel.ac.uk