

Dr. Muhammad Hassan Khan

Assistant Professor

Department of Computer Science,

University of the Punjab,

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Profile Summary

Research Publications:	37	Highest Qualification:	PhD (Germany)
Book / Book Chapter:	2	Research Grants:	9
Journal:	26	PhD Theses Supervision:	6 (In Progress)
Conference:	16	MPhil Theses Supervision:	24 (Completed)
Citations:	619	BS Theses Supervision:	83
Publication Impact Factor:	112.01*	[h-index, i10-index]:	[15, 22]

Education

Ph.D. Computer Science [Sep. 2018]

Universität Siegen, Siegen, Germany

Dissertation title: “Human Activity Analysis in visual Surveillance and Healthcare”

Advisor: Prof. Marcin Grzegorzec

M.Phil. Computer Science [Sep. 2010]

University of the Punjab, Lahore, Pakistan

Thesis title: “Some New Approached to Image Inpainting”

B.S. Information Technology [Sep. 2005]

BZ University, Multan, Pakistan

Research Interests

My current research interests include:

-Machine Learning -Pattern Recognition - Human Activity Analysis - Gait Biometrics
- Movement Analysis - Medical Image Processing - Image Quality Assessment

I have worked on multimodal sensory data to develop the algorithms for the classification of objects and human activities. In past, I have worked from software engineer to project manager; and experienced with variety of tools and technologies.

*Total publication impact factor calculated using the journal’s latest impact factors.

Journal Publications

1. S. Batool, M.H. Khan, M.S. Farid, "An Ensemble Deep Learning Model for Human Activity Analysis using Wearable Sensory Data ," *Applied Soft Computing Journal*, Apr. 2024 [IF: 8.7]
2. M.S. Farid, B.U.Z. Babar, M.H. Khan, "Efficient representation of disoccluded regions in 3D video coding ," *Annals of Telecommunications*, Mar. 2024 [IF: 1.9]
3. R. Fatima, M.H. Khan, M.S. Farid, "A Systematic Evaluation of Feature Encoding Techniques for Gait Analysis using Multimodal Sensory Data ," *Sensors*, vol. 24, Dec. 2023 [IF: 3.9]
4. M.H. Khan, H. Azam, M.S. Farid, "Automatic Multi-Gait Recognition using Pedestrian's Spatiotemporal Features ," *The Journal of Supercomputing*, Nov. 2023 [IF: 3.3]
5. M. Sabih, M.S. Farid, M. Ejaz, M. Husam, M.H. Khan, U. Farooq, " Raw Material Flow Rate Measurement on Belt Conveyor System using Visual Data ," *Applied System Innovation*, vol. 6, Sep. 2023 [IF: 3.8]
6. M. Nasir, M.S. Farid, Z. Suhail, M.H. Khan, "Optimal Thresholding for Multi-Window Computed Tomography (CT) to Predict Lung Cancer ," *Applied Sciences*, May. 2023 [IF: 2.7]
7. M. Usman, M. Ejaz, J.E. Nichol, M.S. Farid, S. Abbas, M.H. Khan, "A Comparison of Machine Learning Models for Mapping Tree Species Using WorldView-2 Imagery in the Agroforestry Landscape of West Africa," *ISPRS International Journal of Geo-Information*, Mar. 2023 [IF: 3.4]
8. M.H. Khan, M.S. Farid, M. Grzegorzec, "A comprehensive study on codebook-based feature fusion for gait recognition," *Information Fusion* , Apr. 2023 [IF: 18.6]
9. R. Mansoor, M.S. Farid, M.H. Khan, A. Maqsood, "A Layered Approach for Quality Assessment of DIBR-Synthesized Images," *Wireless Communications and Mobile Computing* , Nov. 2021 [IF: 2.41]
10. M.H. Khan, M.S. Farid, M. Grzegorzec, "Vision-based Approaches Towards Person Identification using Gait," *Computer Science Review*, Sep. 2021 [IF: 12.9]
11. T. Haider, M.S. Farid, R. Mahmood, A. Ilyas, M.H. Khan, S.T.A. Haider, M.H. Chaudhry, M. Gul, "A Computer Vision-based Approach for Nitrogen Content Estimation in Plant Leaves," *Agriculture*, August. 2021 [IF: 3.6]
12. F. Amjad, M.H. Khan, M.A. Nisar, M.S. Farid, M. Grzegorzec, "A Comparative Study of Feature Selection Approaches for Human Activity Recognition using Multimodal Sensory Data," *Sensors*, vol. 21, Mar. 2021 [IF: 3.9]
13. H.M.U.H. Alvi, M.S. Farid, M.H. Khan, M. Grzegorzec, "Quality assessment of 3D synthesized images based on textural and structural distortion estimation," *Applied Sciences*, vol. 11, no. 6, article 2666, Mar. 2021 [IF: 2.7]
14. A. Maqsood, M.S. Farid, M.H. Khan, M. Grzegorzec, "Deep Malaria Parasite Detection in Thin Blood Smear Microscopic Images," *Applied Sciences*, vol. 11, no. 5, article 2284, Mar. 2021 [IF: 2.7]

15. A. Ilyas, M.S. Farid, M.H. Khan, M. Grzegorzec, "Exploiting Superpixels for Multi-Focus Image Fusion," *Entropy*, vol. 23, no. 2, article 247, Feb. 2021 [IF: 2.7]
16. R. Zafar, M.S. Farid, M.H. Khan, "Multi-focus Image Fusion: Algorithms, Evaluation, and a Library," *Journal of Imaging*, vol. 6, no. 7, article 60, July 2020 [IF: 3.2]
17. M.H. Khan, M. Zöllner, M.S. Farid, M. Grzegorzec, "Marker-Based Movement Analysis of Human Body Parts in Therapeutic Procedure," *Sensors*, vol. 20, no. 11, 3312, May 2020 [IF: 3.9]
18. M.H. Khan, M.S. Farid, M. Grzegorzec, "A non-linear view transformations model for cross-view gait recognition," *Neurocomputing*, vol. 402, pp. 100–111, Apr. 2020 [IF: 6.0]
19. N. Khehrah, M.S. Farid, S. Bilal, M.H. Khan, "Lung nodule detection in CT images using statistical and shape-based features," *Journal of Imaging*, vol. 6, no. 2, article 6, Feb. 2020 [IF: 3.2]
20. M. Saleem, M.S. Farid, S. Saleem, M.H. Khan, "X-ray image analysis for automated knee osteoarthritis detection," *Signal, Image and Video Processing*, vol. 14, Issue 6, pp. 1079–1087, Feb. 2020 [IF: 2.3]
21. M.H. Khan, M.S. Farid, M. Grzegorzec, "A Generic Codebook based Approach for Gait Recognition," *Multimedia Tools and Applications*, vol. 74, Issue 24, pp. 35689–35712, Jul. 2019 [IF: 3.6]
22. S.A.H. Tabatabaei, A. Delforouzi, M.H. Khan, T. Wesener, M. Grzegorzec, "Automatic Detection of the Cracks on the Concrete Railway Sleepers," *International Journal of Pattern Recognition and Artificial Intelligence*, vol. 33, no. 9, Mar. 2019 [IF: 1.5]
23. M.H. Khan, M.S. Farid, M. Grzegorzec, "Spatiotemporal features of human motion for gait recognition," *Signal, Image and Video Processing*, vol. 13, Issue 2, pp. 369–377, Sep. 2018 [IF: 2.3]
24. M.H. Khan, M. Schneider, M.S. Farid, M. Grzegorzec, "Detection of infantile movement disorders in video data using deformable part-based model," *Sensors*, vol. 18, no. 10, pp. 3202, Sep. 2018 [IF: 3.9]
25. M.H. Khan, J. Helsper, M.S. Farid, M. Grzegorzec, "A computer vision-based system for monitoring vojta therapy," *International Journal of Medical Informatics*, vol. 113, pp. 85–95, Feb. 2018 [IF: 4.9]
26. M.H. Khan, M. Grzegorzec, "A Vision-Based Framework to Recognize the Movement Patterns," *International Journal of Software Innovation*, vol. 5, pp. 18–32, Jul. 2017 [HEC - Y Category]

Book

27. M.H. Khan, *Human Activity Analysis in visual Surveillance and Healthcare*, 2018, Logos Verlag Berlin GmbH

Conference Publications

28. M. Ali, M.H. Khan, M.S. Farid, “An Efficient and Robust number plate Detection and Recognition using MobileNet-SSD,” accepted in *Proc. International Conference on Multimedia Systems & Signal Processing (ICMSSP)*, Bangkok, Thailand, May. 2024
29. T. Arshad, M.H. Khan, M.S. Farid, “An Efficient Framework to Recognize Deepfake Faces using a Light-weight CNN,” accepted in *Proc. International Conference on Multimedia Systems & Signal Processing (ICMSSP)*, Bangkok, Thailand, May. 2024
30. U.B. Muslim, M.H. Khan, M.S. Farid, “Exploiting Spatiotemporal Features for Action Recognition,” in *Proc. IEEE International Bhurban Conference on Applied Sciences & Technology (IBCAST)*, Islamabad, Pakistan, pp. , 12-16 Jan. 2021
31. M.H. Khan, M.S. Farid, M. Zahoor, M. Grzegorzec, “Cross-view Gait Recognition using Non-linear View Transformations of Spatiotemporal Features,” in *Proc. IEEE International Conference on Image Processing (ICIP)*, Athens, Greece, pp. 773–777, 7-10 Oct. 2018
32. M.H. Khan, M.S. Farid, M. Grzegorzec, “Using a Generic Model for Codebook-based Gait Recognition Algorithms,” in *Proc. 6th IAPR/IEEE International Workshop on Biometrics and Forensics*, Sassari, Italy, pp. 1–7, 7-8 June 2018
33. M.H. Khan, M.S. Farid, M. Grzegorzec, “Person Identification using Spatiotemporal Motion Characteristics,” in *Proc. 2017 IEEE International Conference on Image Processing (ICIP)*, Beijing, China, pp. 166–170, 17-20 Sept. 2017
34. A. Delforouzi, S.A.H. Tabatabaei, M.H. Khan, M. Grzegorzec, “A Vision-Based Method for Automatic Crack Detection in Railway Sleepers,” in *Proc. of the 10th International Conference on Computer Recognition Systems (CORES)*, pp. 73–82, May 2017
35. M.S. Farid, M. Lucenteforte, M.H. Khan, M. Grangetto, “Semi-automatic Segmentation of Scattered and Distributed Objects,” in *Kurzynski M., Wozniak M., Burduk R. (eds) Proceedings of the 10th International Conference on Computer Recognition Systems (CORES) 2017. Advances in Intelligent Systems and Computing*, vol 578. Chapter 12, pp. 110-119, 22-24 May 2017, Polanica Zdroj, Poland, Springer, Cham, ISBN=978-3-319-59162-9
36. M.H. Khan, F. Li, M.S. Farid, M. Grzegorzec, “Gait Recognition using Motion Trajectory Analysis,” in *Kurzynski M., Wozniak M., Burduk R. (eds) Proceedings of the 10th International Conference on Computer Recognition Systems (CORES) 2017. Advances in Intelligent Systems and Computing*, vol 578. Chapter 8, pp. 73–82, 22-24 May 2017, Polanica Zdroj, Poland, Springer, Cham, ISBN=978-3-319-59162-9
37. M.H. Khan, J. Helsper, Z. Boukhers, M. Grzegorzec, “Automatic recognition of movement patterns in the vojttatherapy using RGB-D data,” in *Proc. 23rd IEEE International Conference on Image Processing (ICIP)*, pp. 1235–1239, Sep. 2016
38. M.H. Khan, K. Shirahama, M.S. Farid, M. Grzegorzec, “Multiple Human Detection in Depth Images,” in *Proc. Multimedia Signal Processing (MMSP), 2016 IEEE 18th International Workshop on*, Montreal, QC, Canada, pp. 1–6, 21-23 Sept. 2016
39. O. Tiebe, C. Yang, M.H. Khan, M. Grzegorzec, and D. Scarpin, “Stripes-Based Object Matching,” in *Computer and Information Science*, pp. 59–72, Jun. 2016, Springer
40. M.H. Khan, J. Helsper, C. Yang, M. Grzegorzec, “An automatic vision-based monitoring

system for accurate Vojta therapy,” in *Proc. 15th IEEE International Conference on Computer Information Science (ICIS)*, pp. 1–6, Jun. 2016

41. M.S. Farid, H. Khan, A. Mahmood, “Image Inpainting using Cubic Hermit Spline,” in *Proc. SPIE 8285, International Conference on Graphic and Image Processing (ICGIP 2011)*, Cairo, Egypt, 82854R, 1-3 October 2011
42. M.S. Farid, H. Khan, A. Mahmood, “Image Inpainting based on Pyramids,” in *Proc. Signal Processing (ICSP), 2010 IEEE 10th International Conference on*, Beijing, China, pp. 711–715, 24-28 Oct. 2010
43. M.S. Farid, H. Khan, “Image Inpainting using Dynamic Weighted Kernels,” in *Proc. Computer Science and Information Technology (ICCSIT), 2010 3rd IEEE International Conference on*, Chengdu, China, pp. 252–255, 9-11 July 2010

Research Projects

1. [Jun. 2023 – May. 2026] - “HumCare: Human Activity Analysis in Healthcare”
Funding agency: Higher Education Commission (HEC) Pakistan
Grant No.: 20-15041/NRPU/R&D/HEC/2021
Status: Project initialized.
2. [Oct. 2022 – Sep. 2025] - “Development and Optimization of Android Smartphone Imaginary Application for Real-time Nitrogen Management in Wheat, Rice and Maize Crops”
Funding agency: Funding agency: Punjab Agricultural Research Board, Pakistan
Grant No.: PARB/21-140/2091
Status: Project initialized.
3. [Sep. 2022 – Jun. 2023] - “An Optimal Selection for Gait Features for Human Recognition”
Funding agency: Ignite National Technology Fund, Pakistan
Grant No.: NGIRI-2023-21250
Status: Successfully completed, and the results are submitted in impact factor journals.
4. [Sep. 2021 – Jun. 2022] - “Number Plate Detection and Recognition”
Funding agency: Ignite National Technology Fund, Pakistan
Grant No.: NGIRI-2022-11599
Status: Successfully completed, and the results are submitted in impact factor journals.
5. [Mar. 2017 – Dec. 2018] - “SenseVojta: Sensor-based Diagnosis, Therapy and Aftercare According to the Vojta Principle”
Funding agency: The German Federal Ministry of Education and Research (BMBF)
Grant No.: 13GW0166E
Status: Successfully completed, and the results are published in impact factor journals.
6. [Nov. 2015 – Feb. 2017] - “Sensor-based Quality Inspection of Railway Sleepers”
Funding agency: The German Federal Ministry of Economics and Technology (BMWi)
Grant No.: KF3411802GR4
Status: Successfully completed, and the results are published in impact factor journals.

7. [Sep. 2008 – Jan. 2011] - “Integration of Open Source Software Projects in IT Education”
Funding agency: The National ICT R&D, Pakistan
Grant No.: 96
Status: Successfully completed, and a complete opens source ERP is customized in University of the Punjab, Pakistan.

Research Grants

1. [2023–2026] - “HumCare: Human Activity Analysis in Healthcare”
Funding agency: Higher Education Commission (HEC) Pakistan
Grant: Rs. 11.13 Million. This is the highest research grant in the University of Punjab from HEC NRPU till to date.
Status: In Progress.
2. [2022–2025] - “Development and Optimization of Android Smartphone Imaginary Application for Real-time Nitrogen Management in Wheat, Rice and Maize Crops”
Funding agency: Punjab Agricultural Research Board, Pakistan
Grant: Rs. 14.004 Million.
Status: In Progress.
3. [2022–2023] - “An Optimal Selection for Gait Features for Human Recognition”
Funding agency: Ignite National Technology Fund, Pakistan
Grant: Rs. 88K.
Status: Successfully completed, and the results are submitted in an impact factor journal.
4. [2022–2023] - “Automatic Number Plate Recognition”
Funding agency: University of the Punjab, Lahore, Pakistan
Grant: Rs. 200K
Status: Successfully completed, and the results are published in an impact factor journal.
5. [2021–2022] - “Feedback-based Adaptive Human Activity Recognition”
Funding agency: University of the Punjab, Lahore, Pakistan
Grant: Rs. 200K
Status: Successfully completed, and the results are published in an impact factor journal.
6. [2019–2020] - “Multimodal Sensor Data Analysis for Human Activity Recognition”
Funding agency: University of the Punjab, Lahore, Pakistan
Grant: Rs. 150K
Status: Successfully completed, and the results are published in an impact factor journal.
7. [2013–2014] - “Infrastructure of iPhone and Android Development at Agile Technologies (An indigenous software house of PUCIT)”
Funding agency: University of the Punjab, Lahore, Pakistan
Grant: Rs. 150K
Status: Successfully completed, and the development infrastructure was setup in the Punjab University College of Information Technology.
8. [2011–2012] - “A Hierarchical Approach to Image De-fencing”
Funding agency: University of the Punjab, Lahore, Pakistan
Grant: Rs. 125K
Status: Successfully completed, and the results are published in renowned international proceedings.

Seminars/Conferences/Workshops Attended

- [Jul. 2023] An Awareness Seminar on Patent Filing and Registration Intellectual Property Rights
- [Jul. 2023] Collaborate - a meet up with Educative
- [Apr. 2023] IEEE: From research to Publication: An overview on IEEE Publication Process
- [Mar. 2023] IEEE: Another Learning experience: Broaden your horizon with IEEE eLearning courses
- [Jan. 2021] 18th IEEE International Bhurban Conference on Applied Sciences and Technology (IBCAST).
- [Jan. 2021] Webinar:-Dissecting the scholarly publishing process. An overview and guidance on publishing.
- [Dec. 2019] Seminar:- Peace Promotion Activities at PU, Lahore, Pakistan.
- [Dec. 2018] MedDS@IMI Seminar, Universität zu Lübeck, Lübeck, Germany.
- [Oct. 2018] 25th IEEE International Conference on Image Processing (ICIP), Athens, Greece.
- [Dec. 2018] 6th International Workshop on Biometrics and Forensics (IWBF), Sassari, Italy.
- [Feb. 2018] Seminar:- H2020-MyAHA, Universität Siegen, Siegen, Germany.
- [Nov. 2017] Seminar:- Machine Learning in Neuroimaging, Universität Siegen, Siegen, Germany.
- [Jul. 2017] Seminar:- Cognitive Activity Recognition, Universität Siegen, Siegen, Germany.
- [May. 2017] International conference on computer recognition systems, Zdrój, Poland.
- [Apr. 2017] ERASMUS+ Mobility for Teaching (7th International Week Internet Communication Management), Katowice, Poland.
- [Sep. 2016] 18th IEEE International Workshop on Multimedia Signal Processing (MMSP), Montreal, Canada.
- [Jun. 2016] 15th IEEE/ACIS International Conference on Computer and Information Science (ICIS), Okayama, Japan.
- [Apr. 2011] Computer Project Exhibition and Competition (COMPPEC) 2011, Islamabad, Pakistan.
- [Jun. 2010] 10th IEEE International Conference on Signal Processing (ICSP 2010), Beijing, China.
- [Jul. 2007] Professional Excellence for Customer Services, Lahore, Pakistan.
- [Jun. 1996] Boy's Scouts Summer Training Camp, Murree, Pakistan.

International Teaching

- [Fall 2018]
 - Course: Medical Image Processing
 - Degree Program: MS
 - Place: Universität Siegen, Siegen, Germany.

- [Summer 2017]
 Course: Pattern Recognition
 Degree Program: BS and MS (within the framework of Erasmus+ program)
 Place: University of Economics in Katowice, Katowice, Poland.
- [Summer 2016]
 Course: Pattern Recognition
 Degree Program: MS
 Place: University of Economics in Katowice, Katowice, Poland.

Honors

- Second position in M. Phil Computer Science, University of the Punjab, Lahore, Pakistan.
- First position in F.Sc at District Bahawalnagar, Pakistan.
- Merit scholarships in BS.

Awards/Recognitions

- [Jan. 2023] Research Incentive Award of Rs. 90K from University of the Punjab, Lahore, Pakistan for the year of 2021.
- [Oct. 2021] Research Incentive Award of Rs. 54K from University of the Punjab, Lahore, Pakistan for the year of 2020.
- [Dec. 2020] Research Incentive Award of Rs. 25K from University of the Punjab, Lahore, Pakistan for the year of 2019.
- [Apr. 2020] Research Incentive Award of Rs. 40K from University of the Punjab, Lahore, Pakistan for the year of 2018.
- [Oct. 2021] Performance Evaluation Award of Rs. 40.5K from University of the Punjab, Lahore, Pakistan for the year of 2019.
- [Jul. 2021] Performance Evaluation Award of Rs. 35K from University of the Punjab, Lahore, Pakistan for the year of 2018.
- Best paper award for "A Vision-Based Method for Automatic Crack Detection in Railway Sleepers" at CORES 2017.
- [Nov. 2014] Scholarship for PhD study at Universität Siegen, Germany (Jan. 2015 - Dec. 2018) from University of the Punjab, Lahore, Pakistan.
- [Sep. 2010] Travel Grant of Rs. 190K from Higher Education Commission, Pakistan to present my research paper at ICSP'10, China.
- [Aug. 2009] Development and deployment of an integrated ERP solution for Punjab University College of Information Technology, University of the Punjab. Lahore, Pakistan.

Research Theses Supervised (Selected)

Ph.D

- Ms. Tazeem Haider, University of the Punjab, Pakistan. In Progress
Ontology based Human Activity Recognition using sensory data

- Ms. Maryam Shabir, University of the Punjab, Pakistan. In Progress
Machine Learning-based Approaches Towards the Exploration and Categorization of Bacterial Meningitis and Cerebral Malaria
- Ms. Nazish Ashfaq, University of the Punjab, Pakistan. In Progress
Machine Learning-based Approaches to Handle Inadequacy Problem for Time Series Multimodal Sensory Data
- Ms. Rabia Zafar, University of the Punjab, Pakistan. In Progress
Deep Learning-based Approach for Nitrogen Nutrition Estimation in Cereal Crops Using RGB Images
- Ms. Sana Shahzadi, University of the Punjab, Pakistan. In Progress
Offline Cursive Urdu Handwriting Recognition
- Mr. Rameez Raja, University of the Punjab, Pakistan. In Progress
Context Aware Activity Recognition from Sensory Data using Machine Learning Techniques

M. Phil/MS

- Ms. Qudsia Hamid, University of the Punjab, Pakistan. May, 2013.
3D Spatial Parcel Registration
- Mr. Daniel Novakovic, University of Siegen, Germany. Dec, 2017.
Cross-view gait recognition
- Mr. Venkata Sai Jaswanth Kumar Boddu, University of Siegen, Germany. Jul, 2018.
Implementation of an Automatic Tool for Fall Detection in Elderly People
- Ms. Maryiam Zahoor, University of the Punjab, Pakistan. Oct, 2018.
Multiview gait recognition using spatiotemporal motion characteristics
- Mr. Usairam Bin Muslim, University of the Punjab, Pakistan. May, 2020.
Exploiting Spatiotemporal Features for Action Recognition
- Ms. Nawal Gul Bahar, University of the Punjab, Pakistan. Feb, 2021.
A GIS based Classification of Biodiversity using Remote Sensing
- Ms. Fatima Amjad, University of the Punjab, Pakistan. Mar, 2021.
A Feature Selecting Technique on Multimodels Sensoric Data for Human Activity Analysis
- Mr. Mohsin Nazir, University of the Punjab, Pakistan. Mar, 2021.
Feedback-based Adaptive Human Activity Recognition System
- Ms. Rimsha Fatima, University of the Punjab, Pakistan. Sep, 2022.
Feature Learning-based Approaches Towards Recognition of Walking Styles using IMU's Data
- Ms. Tania Arshad, University of the Punjab, Pakistan. Sep, 2022.
Deep Fake Detections
- Ms. Hiba Azam, University of the Punjab, Pakistan. Sep, 2022.
Multi-Gait Recognition using Spatiotemporal Features of Human Motion
- Ms. Aneesa Amjad, University of the Punjab, Pakistan. Sep, 2022.
Soccer video analytics and commentary generation
- Mr. Muhammad Ahtisham, University of the Punjab, Pakistan. Sep, 2022.
A comparative study of deep learning models for human action recognition
- Ms. Mahnoor Ejaz, University of the Punjab, Pakistan. Sep, 2022.
Tree Detection and Classification in Multispectral Data

- Ms. Marriam Aslam, University of the Punjab, Pakistan. Sep, 2022.
Applications of Optical Coherence Tomography in Diagnosis of Diabetic Retinopathy, Age Related Maculopathy Degeneration, and Glaucoma
- Ms. Sheeza Batool, University of the Punjab, Pakistan. Aug, 2023.
Deep Learning Approaches for Human Activity Analysis using Wearable Devices
- Ms. Haida Shafiq, University of the Punjab, Pakistan. Aug, 2023.
Reconstruction-based Encoding Techniques for Human Action Analysis
- Ms. Fatima Shahzad, University of the Punjab, Pakistan. Aug, 2023.
An Efficient and Robust Deep Learning Approach for Vehicle Recognition
- Ms. Talia Noureen, University of the Punjab, Pakistan. Aug, 2023.
Machine Learning Approaches Towards ECG Data Classification
- Ms. Arooj Jamil, University of the Punjab, Pakistan. Sep, 2023.
Gait Analysis using Sensory Data
- Ms. Khizra Rasheed, University of the Punjab, Pakistan. Sep, 2023.
Using Reinforcement Learning technique for Training ML Agents in a unity Environment
- Ms. Laiba Shoukat, University of the Punjab, Pakistan. Sep, 2023.
Land use Landcover classification using Spectral and Temporal characteristics of Satellite Images using Machine Learning Techniques
- Mr. Muhammad Nouman Ashraf, University of the Punjab, Pakistan. Nov, 2023
Super-Resolution for Real Data using Deep Learning Models
- Mr. Shah Zaib, University of the Punjab, Pakistan. Nov, 2023
Real-time Attendance System using Deep Learning Models
- Mr. Talha Zubair, University of the Punjab, Pakistan. In Progress
Object Distance Approximation for Self-driving Cars using Monocular Camera with Deep Learning Models
- Ms. Amna Bibi, University of the Punjab, Pakistan. In Progress
Context Detection in Human Activity Recognition(HAR) system using Sensory Data
- Ms. Ayesha Shahid, University of the Punjab, Pakistan. In Progress
Data augmentation of HAR time series data using GAN
- Ms. Iqra Nasir, University of the Punjab, Pakistan. In Progress
Analysis of Human Activities using Sensory Data
- Ms. Aiman Batool, University of the Punjab, Pakistan. In Progress
Gait Analysis using Time Series Data
- Ms. Sidra Naz, University of the Punjab, Pakistan. In Progress
Fall Detection Analysis Using Sensory Data

BS

- Mr. Julien Frederic Helsper, University of Siegen, Germany. Jan, 2016.
Automatic Recognition of Movement Patterns in the Vojta-Therapy using RGB-D Data
- Mr. Manuel Schneider, University of Siegen, Germany. Oct, 2017.
Automatic Pose Recognition in Vojta-therapy
- Mr. Martin Zoller, University of Siegen, Germany. Aug, 2018.
A Comparative Study of 3D Pose Estimation for Patients in Physiotherapy

- Ms. Jawayria Hashmi et al., University of the Punjab, Pakistan. Jun, 2020.
Real-time Obstacle Detection and Navigation System for the Visually Impaired Community
- Mr. Abdullah Zafar et al., University of the Punjab, Pakistan. Jun, 2020.
A Comparative Study of Malware Classification using Machine Learning Techniques
- Ms. Kainat Sadaqat, University of the Punjab, Pakistan. Jun, 2021.
Multi-gait Recognition
- Mr. Eman Ejaz, University of the Punjab, Pakistan. Jun, 2021.
We-Go - Intelligent Tourism Recommendation System
- Ms. Nasira Jamil, University of the Punjab, Pakistan. Jun, 2021.
Artificially Intelligent E-shopping system
- Mr. Muhammad Tajeel Zia, University of the Punjab, Pakistan. Jun, 2021.
Virtual Reality (VR) Shopping App
- Mr. Muhammad Ali et al., University of the Punjab, Pakistan. Jun, 2022.
Automatic Car Parking System
- Ms. Farwa Farzand, University of the Punjab, Pakistan. Jun, 2022.
Gait Recognition for Multiple People
- Ms. Aleema Imran et al., University of the Punjab, Pakistan. Jun, 2023.
An Optimal Selection of Gait Features for Human Recognition
- Muhammad Faizan Akram et al., *Nutri Fusion Analyser*
- Laiba Kamran et al., University of the Punjab, Pakistan. In Progress
Human Activity Recognition using Smartwatch
- Muhammad Junaid et al., University of the Punjab, Pakistan. In Progress
Human Health Monitoring by Activity Tracking using Wearable Devices
- Zubair Zulfiqar et al., University of the Punjab, Pakistan. In Progress
Human Activity Analysis for Health Care using Smartphone
- Laiba Zahid et al., University of the Punjab, Pakistan. In Progress
A Framework to recognize Human Activities

Service to the Community

- Technical reviewer of several journals including IEEE Transaction on Cybernetics, IEEE Transactions on Circuits and Systems for Video Technology, Neurocomputing, Artificial Intelligence in Medicine, Computerized Medical Imaging and Graphics, Innovation and Research in BioMedical engineering, Pervasive and Mobile Computing, Computer Vision and Image Understanding, Computers & Electrical Engineering, Engineering Applications of Artificial Intelligence, Gait & Posture IEEE Access, Image and Vision Computing, International Journal of Environmental Research and Public Health, PeerJ Computer Science Plos One, SN Applied Sciences, The Journal of Supercomputing, Multimedia Tools and Applications, Sensors, Applied Sciences Healthcare, Entropy, Mathematics, Robotics, Mathematical Problem in Engineering, ACM Multimedia Conference
- Member Program Committee at 9th International Conference on Time Series and Forecasting (ITISE2023)
- [Oct. 2022 - Sep. 2024] Editorial Board Member of Modern Intelligent Times

- Member Program Committee at ACM International Conference on Multimedia (ACMMM2022)
- Member Program Committee at International Conference on Time Series and Forecasting (ITISE2022)
- [Jan. 2023 - To Date] Served as Subject Specialist at Punjab Public Service Commission (PPSC), Pakistan.
- [Oct. 2022] Served as Subject Specialist at Federal Public Service Commission, Pakistan.
- [Sep. 2022] Served as Judge in Science Fair, Fazaia Intermediate College Lahore Cantt, Lahore.
- [Aug. 2022 - To Date] M.Phil/Ph.D External Examiner at Virtual University of Pakistan.
- [May 2022 - To Date] External Examiner at Department of Computer Science, IBA, Sukkur Pakistan.
- [2022 - To Date] Member of the College Committee for the accreditation of bachelor level computing degree programs from the National Computing Education Accreditation Council (NCEAC).
- [2022 - To Date] Member of the Disciplinary Committee at Faculty of Computing and Information Technology, University of the Punjab, Lahore.
- [2021 - To Date] Member of the the Departmental Doctoral Program Committee (DDPC), University of the Punjab, Lahore.
- [2019 - 2020] Member of PUCIT Financial Aid Committee for the allocation of financial aid to students.
- [De. 2012] Served as Judge in Punjab Science Fairs, Govt. Central Model School for Boys, Lahore.
- [2008 - 2014] Served as an administrator of PUCIT Campus Management System, online admissions, and a member of several admission committees in the college.
- [2010 - 2011] Member of the College Disciplinary Committee at Punjab University College of Information Technology, University of the Punjab, Lahore.
- [2010 - 2011] Member of the College Committee for the accreditation of bachelor level computing degree programs from the National Computing Education Accreditation Council (NCEAC).

Formal Training / Tests

- Pattern Recognition: 1.0 (Very Good)
- German (A1.1): 2.0
- NTS GAT (General): 84.23
- Boys Scouts Summer Training Camp (1996)

Employment, University of the Punjab, Pakistan.

Assistant Professor

Nov. 2014 to present

Courses: Pattern Recognition, Advance Web GIS, Web Engineering, Programming Fundamentals, Object Oriented Programming, Database Management and Surveys

Lecturer

Sep. 2007 - Nov. 2014

Courses: Programming Fundamentals, Object Oriented Programming, Web Development, Internet

Programming, Enterprise Application Development

Head of Agile Technologies

Sep. 2007 - Dec. 2014

Activities: Leading a team for the automation of university systems. We developed and deployed a complete ERP system to fulfill the academics and administrative requirements of the university.

Employment, University of Management and Technology, Pakistan.

Software Engineer

Mar. 2006 - Aug. 2007

Worked as Software Engineer to develop and provide the support of various automated solutions to the university. In particular, I developed/customized a complete Campus Management System for the faculty, staff and students.

Memberships

- Member, IEEE [2016 – to-date]
- Member, IACSIT [2014 – to-date]
- Member, IAENG [2014 – to-date]

Languages

- English
- Urdu (National Language)
- Punjabi (Native Language)
- German (A1.1)

Countries Visited

China, Germany, Japan, Canada, Austria, Czech Republic, Slovakia, Hungary, Poland, Kingdom of Saudi Arabia, Belgium, Netherlands, France, Switzerland, United Kingdom, Italy, Greece, Spain

References


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