Muhammad Imran Malik

Associate Professor

School of Electrical Engineering and Computer Science

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LinkedIn:

About

Dr. Muhammad Imran Malik is working as Associate Professor in the School of Electrical Engineering and Computer Science. Dr. Muhammad Imran Malik has a PhD in Machine Learning For Forensic Document Analysis. Dr. Muhammad Imran Malik has published 50 research articles & conference papers having a citation count of 1198, carried out 9 projects and filed 0 intellectual property.

Qualifications

PhD in Machine Learning For Forensic Document Analysis   2011 - 2015
  Universität Kaiserslautern , Germany

MPhil in (Artificial Intelligence)   2008 - 2011
  Universität Kaiserslautern , Germany

BS in (Computer Sciences)   2000 - 2004
  Allama Iqbal Open University , Pakistan

Experience

Associate Professor   2021- Present
  School of Electrical Engineering and Computer Science

Assistant Professor   2019 - 2021
  School of Electrical Engineering and Computer Science

Assistant Professor   2016 - 2019
  School of Electrical Engineering and Computer Science

Assistant Professor   2015 - 2016
  School of Electrical Engineering and Computer Science

Awards

Best Student Paper Award   2013
  Best Student Paper Award by Association of Forensic Document Examiners, USA.

HEC-DAAD PhD scholarship   2011
  HEC-DAAD Ph.D. scholarship at TU Kaiserslautern, Germany.

HEC-DAAD MS scholarship
  HEC-DAAD MS scholarship at TU Kaiserslautern, Germany.

Research Projects

National Projects

Ba-Ikhtiyar Jawan: Upscaling & Digitisation of Vocational Education Curriculum in Pakistan   2025
    Funding Agency: DAAD - German Academic Exchange Service
    Amount: PKR 59,589,000.00
    Status: Approved_inprocess

SLUM-i: A Remote Sensing Based Intelligent Framework for Detection and Predictive Growth Analysis of Slums for Sustainable Socio-Economic Development of Pakistan   2023
    Funding Agency: DAAD
    Amount: PKR 14,423,146.00
    Status: Approved_inprocess

AI-FORCAST: AI-based Forest Carbon Stock Assessment for Climate Change Mitigation   2023
    Funding Agency: DAAD German Academic Exchange Service
    Amount: PKR 12,106,119.00
    Status: Approved_inprocess

Water Resource Estimation by Satellite-Based Image Analysis (WASABI) – Extension.   2023
    Funding Agency: DAAD
    Amount: PKR 4,491,635.00
    Status: Completed

WAter Resource Estimation by Satellite Based Image Analysis (WASABI)   2018
    Funding Agency: DAAD
    Amount: PKR 12,000,000.00
    Status: Completed

Crop Monitoring via Remote Sensing from Earth Observation Satellites to UAVs   2018
    Funding Agency: DAAD
    Amount: PKR 12,352,440.00
    Status: Approved_inprocess

Internet of Things (IoT) enabled surface water pollution detection for predictive healthcare   2019
    Funding Agency: DAAD
    Amount: PKR 13,388,860.00
    Status: Completed

Forest Monitoring and changed detection using remote sensing data   2018
    Funding Agency: DAAD
    Amount: PKR 10,000,000.00
    Status: Completed

Fish Bio Diversity Estimation by Low-Cost Non-Destructive Video Based Sampling (FIBEVID)   2016
    Funding Agency: DAAD
    Amount: PKR 10,000,000.00
    Status: Completed

International Projects

Research Articles

KRNN: A hybrid data and knowledge oriented time series forecasting approach for health care applications   2025
    Muhammad Ali Chattha Muhammad Imran Malik Andreas Dengel Sheraz Ahmed
    Expert Systems with Applications , Volume:268, Article Number 126148
    Impact Factor: 7.500 | **Quartile:** 1
    DOI: https://doi.org/10.1016/j.eswa.2024.126148

Addressing data dependency in neural networks: introducing the Knowledge Enhanced Neural Network (KENN) for time series forecasting +   2025
    Muhammad Ali Chattha Muhammad Imran Malik Andreas Dengel Sheraz Ahmed
    Machine Learning , Volume 114, Issue 2, Article Number 30
    Impact Factor: 4.300 | **Quartile:** 1
    DOI: https://doi.org/10.1007/s10994-024-06714-9

Vision Based 3D Localization of UAV Using Deep Image Matching

Mansoor Khurshid Muhammad Shahzad Hasan Ali Khattak Muhammad Imran Malik Muhammad Moazam Fraz

2024

Endmember Analysis of Overlapping Handwritten Text in Hyperspectral Document Images

Hassan Irtiza Mirza Saad Bin Ahmed Roberto Solis Oba Muhammad Imran Malik

2024

ADH-PPI: An Attention based Deep Hybrid Model for Protein Protein Interaction Prediction

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

2022

EL-RMLocNet: An explainable LSTM network for RNA-associated multi-compartment localization prediction

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Christoph Zehe Olivier Cloarec Johan Trygg Andreas Dengel Sheraz Ahmed

2022

Circ-LocNet: A Computational Framework for Circular RNA Sub-Cellular Localization Prediction

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

2022

LGCA-VHPPI: A local-global residue context aware viral-host protein-protein interaction predictor

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

2022

Histone-Net: a multi-paradigm computational framework for histone occupancy and modification prediction

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Imran Razzak Andreas Dengel Sheraz Ahmed

2022

ExAID: A multimodal explanation framework for computer-aided diagnosis of skin lesions

Adriano Lucieri Muhammad Naseer Bajwa Stephan Alexander Braun Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

2022

Bacterial Prediction using Internet of Things (IoT) and Machine Learning

Hamza Khurshid Rafia Mumtaz Noor Alvi Ayesha Haque Sadaf Mumtaz Faisal Shafait Sheraz Ahmad Muhammad Imran Malik Andreas Dengel

2022

UCL: Unsupervised Curriculum Learning for water body classification from remote sensing imagery

Nosheen Abid Muhammad Shahzad Muhammad Imran Malik Ulrich Schwanecke Adrian Ulges György Kovács Faisal Shafait

2021

Multi-view gait recognition system using spatio-temporal features and deep learning

Saba Gul Muhammad Imran Malik Gul Muhammad Khan Faisal Shafait

2021

Impact Factor: 8.665 | **Quartile:** 1 | **Citations:** 38
DOI: https://doi.org/10.1016/j.eswa.2021.115057

Learning the micro deformations by max- pooling for offline signature verification
2021

Yuchen Zheng Brian Kenji Iwana Muhammad Imran Malik Sheraz Ahmed Wataru Ohyama Seiichi Uchida

Pattern Recognition , Volume 118, Article Number 108008

Impact Factor: 8.518 | **Quartile:** 1 | **Citations:** 33
DOI: https://doi.org/10.1016/j.patcog.2021.108008

Advances in Computational Methodologies for Classification and Sub-Cellular Locality Prediction of Non-Coding RNAs
2021

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

International Journal of Molecular Sciences , Volume 22(16), Article Number 8719

Impact Factor: 5.924 | **Quartile:** 1 | **Citations:** 21
DOI: 10.3390/ijms22168719

Sense the pen: Classification of online handwritten sequences (text, mathematical expression, plot/graph)
2021

Junaid Younas Muhammad Imran Malik Sheraz Ahmed Faisal Shafait Paul Lukowicz

Expert Systems with Applications , Volume 172, Article Number 114588

Impact Factor: 8.665 | **Quartile:** 1 | **Citations:** 6
DOI: https://doi.org/10.1016/j.eswa.2021.114588

AI-ForestWatch: semantic segmentation based end-to-end framework for forest estimation and change detection using multi-spectral remote sensing imagery
2021

Annus Zulfiqar Muhammad M. Ghaffar Muhammad Shahzad Christian Weis Muhammad Imran Malik Faisal Shafait Norbert Wehn

Journal of Applied Remote Sensing, Volume 15(2), Article Number 024518

Impact Factor: 1.568 | **Quartile:** 4 | **Citations:** 25
DOI: https://doi.org/10.1117/1.JRS.15.024518

A Robust and Precise ConvNet for small non-coding RNA classification (RPC-snRC)
2021

Muhammad Nabeel Asim Muhammad Imran Malik Christoph Zehe Johan Trygg Andreas Dengel Sheraz Ahmed

IEEE Access , Volume 9, Pages 19379-19390

Impact Factor: 3.476 | **Quartile:** 2 | **Citations:** 12
DOI: https://doi.org/10.1109/ACCESS.2020.3037642

MirLocPredictor: A ConvNet-Based Multi-Label MicroRNA Subcellular Localization Predictor by Incorporating k-Mer Positional Information
2020

Muhammad Nabeel Asim Muhammad Imran Malik Christoph Zehe Johan Trygg Andreas Dengel Sheraz Ahmed

Genes , Volume 11(12), Article Number 1475

Impact Factor: 4.096 | **Quartile:** 2 | **Citations:** 22
DOI: https://doi.org/10.3390/genes11121475

Fi-fo detector: Figure and formula detection using deformable networks
2020

Junaid Younas Shoaib Ahmed Siddiqui Mohsin Munir Muhammad Imran Malik Faisal Shafait Paul Lukowicz Sheraz Ahmed

Applied Sciences , Volume 10(18), Article Number 6460

Impact Factor: 2.679 | **Quartile:** 2 | **Citations:** 16
DOI: 10.3390/app10186460

Confident Classification Using a Hybrid Between Deterministic and Probabilistic Convolutional Neural Networks
2020

Muhammad Naseer Bajwa Suleman Khurram Mohsin Munir Shoaib Ahmed Siddiqui Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

IEEE Access , Volume: 8, Pages 115476-115485

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 6
DOI: 10.1109/ACCESS.2020.3004409

Computer-aided diagnosis of skin diseases using deep neural networks
2020

Muhammad Naseer Bajwa Kaoru Muta Muhammad Imran Malik Shoaib Ahmed Siddiqui Stephan Alexander Braun Bernhard Homey Andreas Dengel Sheraz Ahmed

Applied Sciences , Volume 10(7), Article Number 2488

Impact Factor: 2.679 | **Quartile:** 2 | **Citations:** 121
DOI: https://doi.org/10.3390/app10072488

Two-stage framework for optic disc localization and glaucoma classification in retinal fundus images using deep learning
2019

Muhammad Naseer Bajwa Muhammad Imran Malik Shoaib Ahmed Siddiqui Andreas Dengel Faisal Shafait Wolfgang Neumeier sheraz Ahmed

BMC Medical Informatics and Decision Making , Volume 19, Article Number 136

Impact Factor: 2.317 | **Quartile:** 3 | **Citations:** 165
DOI: 10.1186/s12911-019-0842-8

A Perspective Analysis of Handwritten Signature Technology   2019

Moises Diaz Miguel A. Ferrer Donato Impedovo Muhammad Imran Malik University of Bari, Bari, Italy Réjean Plamondon

ACM Computing Surveys (CSUR) , Volume 51 Issue 6, Article No. 117

Impact Factor: 7.99 | **Quartile:** 1 | **Citations:** 191
DOI: 10.1145/3274658

DeCNT: Deep Deformable CNN for Table Detection   2018

Shoaib Ahmed Siddiqui Muhammad Imran Malik Stefan Agne Andreas Dengel Sheraz Ahmed

IEEE Access , Volume 6, Pages 74151-74161

Impact Factor: 4.098 | **Quartile:** 1 | **Citations:** 114
DOI: 10.1109/ACCESS.2018.2880211

3DAirSig: A Framework for Enabling In-Air Signatures Using a Multi-Modal Depth Sensor   2018

Faisal Shafait Muhammad Jameel Nawaz Malik Ahmed Elhayek Sheraz Ahmed Muhammad Imran Malik Didier Stricker

Sensors , Volume: 18, Issue: 11, Article Number: 3872

Impact Factor: 3.031 | **Quartile:** 1 | **Citations:** 27
DOI: 10.3390/s18113872

Automatic fish species classification in underwater videos: Exploiting pre-trained deep neural network   2018
models to compensate for limited labelled data

Shoaib Ahmed Siddiqui Ahmad Salman Muhammad Imran Malik Faisal Shafait Ajmal Mian Mark Shorits Euan Harvey

ICES Journal of Marine Science , NULL

Impact Factor: 3.367 | **Quartile:** 1 | **Citations:** 208
DOI: 10.1093/icesjms/fsx109

Conference Proceedings

Knowledge Forcing: Fusing Knowledge-Driven Approaches with LSTM for Time Series Forecasting   2023

Muhammad Ali Chattha Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

32nd International Conference on Artificial Neural Networks, ICANN 2023, res.country(88,)

Citations: N/A
DOI: 10.1007/978-3-031-44223-0_17

Adversarial Attacks on Convolutional Siamese Signature Verification Networks   2023

MAHAM JAHANGIR Muhammad Imran Malik Faisal Shafait

17th International Conference on Document Analysis and Recognition, ICDAR 2023, res.country(233,)

Citations: N/A
DOI: 10.1007/978-3-031-41685-9_22

Burnt Forest Estimation from Sentinel-2 Imagery of Australia using Unsupervised Deep Learning   2021

*Nosheen Abid Muhammad Imran Malik Muhammad Shahzad Faisal Shafait Haider Ali Muhammad Mohsin Ghaffar Christian Weis Norbert Wehn Marcus
Liwicki*

2021 Digital Image Computing: Techniques and Applications (DICTA), res.country(13,)

Citations: N/A
DOI: 10.1109/DICTA52665.2021.9647174

ChrSLoc-Net: Machine Learning-Based Prediction of Channelrhodopsins Proteins within Plasma   2021
Membrane

Muhammad Nabeel Asim Muhammad Ali Ibrahim Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

IEEE EMBS International Conference on Biomedical and Health Informatics (BHI) , res.country(88,)

Citations: N/A
DOI: 10.1109/bhi50953.2021.9508615

Offline Signature Verification Using Feature Learning and One-Class Classification   2020

Safia Shabbir Muhammad Imran Malik Imran Siddiqi

4th Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI), res.country(221,)

Citations: N/A
DOI: 10.1007/978-3-030-71804-6_18

Named Entity Recognition in Semi Structured Documents Using Neural Tensor Networks   2020

Khurram Shehzad Adnan Ul-Hasan Muhammad Imran Malik Faisal Shafait Khurram Shehzad Adnan Ul-Hasan Muhammad Imran Malik Faisal Shafait

14th IAPR International Workshop on DOcument Analysis Systems (DAS), res.country(48,)

Citations: N/A
DOI: 10.1007/978-3-030-57058-3_28

On Interpretability of Deep Learning based Skin Lesion Classifiers using Concept Activation Vectors

2020

Adriano Lucieri Muhammad Naseer Bajwa Stephan Alexander Braun Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

International Joint Conference on Neural Networks, res.country(231,)

Citations: N/A
DOI: 10.1109/IJCNN48605.2020.9206946

G1020: A Benchmark Retinal Fundus Image Dataset for Computer-Aided Glaucoma Detection

2020

Muhammad Naseer Bajwa Gur Amrit Pal Singh Wolfgang Neumeier Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

Proceedings of the International Joint Conference on Neural Networks, res.country(231,)

Citations: N/A
DOI: 10.1109/IJCNN48605.2020.9207664

On Interpretability of Deep Learning based SkinLesion Classifiers using Concept Activation Vectors

2020

Adriano Lucieri Muhammad Naseer Bajwa Stephan Braun Muhammad Imran Malik Andreas Dengel Sheraz Ahmed Adriano Lucieri Muhammad Naseer Bajwa Stephan Braun Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

International Joint Conference on Neural Networks (IJCNN, res.country(231,)

Citations: N/A
DOI: 10.1109/IJCNN.1990.137532

K-mer Neural Embedding Performance Analysis Using Amino Acid Codons

2020

Muhammad Nabeel Asim Muhammad Imran Malik Andreas Deengel Sheraz Ahmed Muhammad Nabeel Asim Muhammad Imran Malik Andreas Deengel Sheraz Ahmed

International Joint Conference on Neural Networks (IJCNN, res.country(231,)

Citations: N/A
DOI: 10.1109/IJCNN.1990.137532

Detection of Subject Attention in an active environment through Facial Expressions using Deep Learning Techniques and Computer Vision

2020

Ahmed Husnain Johar Imran Malik Faisal Shafait Naqash Gerard Talha Yousuf Umer Asgher Adnan Ul Hasan

11th International Conference on Applied Human Factors and Ergonomics, res.country(233,)

Citations: N/A
DOI: 10.1007/978-3-030-51041-1_43

Runway Detection And Localization In Aerial Images Using Deep Learning

2019

Javeria Akbar Muhammad Shahzad Muhammad Imran Malik Adnan Ul-Hasan Faisal Shafait

Digital Image Computing: Techniques and Applications (DICTA), res.country(13,)

Citations: N/A
DOI: 10.1109/DICTA47822.2019.8945889

FFD: Figure And Formula Detection From Document Images

2019

Junaid Younas Syed Tahseen Raza Rizvi Muhammad Imran Malik Faisal Shafait Paul Lukowicz Sheraz Ahmed Junaid Younas Syed Tahseen Raza Rizvi Muhammad Imran Malik Faisal Shafait Paul Lukowicz Sheraz Ahmed

Digital Image Computing: Techniques and Applications (DICTA), res.country(13,)

Citations: N/A
DOI: 10.1109/DICTA47822.2019.8945972

Combining Fine- and Coarse-Grained Classifiers for Diabetic Retinopathy Detection

2019

Muhammad Naseer Bajwa Yoshinobu Taniguchi Muhammad Imran Malik Wolfgang Neumeier Andreas Dengel Sheraz Ahmed

Communications in Computer and Information Science, res.country(231,)

Citations: N/A
DOI: 10.1007/978-3-030-39343-4_21

Combining Fine and Coarse Grained Classifiers for Diabetic Retinopathy Detection

2019

Bajwa, MN Y Taniguchi Muhammad Imran Malik W Neumeier A Dengel S Ahmed

23rd Conference on Medical Image Understanding and Analysis, res.country(231,)

Citations: N/A
DOI: https://pdfs.semanticscholar.org/8bc0/1c52db229f1591924f65d3404db5ee1424f6.pdf

KINN: Incorporating Expert Knowledge in Neural Networks

2019

Chattha, MA SA Siddiqui Muhammad Imran Malik L van Elst A Dengel S Ahmed

Proceedings of the AAAI 2019 Spring Symposium on Combining Machine Learning with Knowledge Engineering, res.country(233,)

What am I Writing: Classification of On-line Handwritten Sequences 2018

Junaid Younas Stefan Fritsch Gerald Pirkl Sheraz Ahmed Muhammad Imran Malik Faisal Shafait Paul Lukowicz

Intelligent Environments 2018 Workshops: Rome, Italy, res.country(109,)

Citations: N/A
DOI: https://dblp.org/db/conf/intenv/intenv2018w

D-StaR: A Generic Method for Stamp Segmentation from Document Images 2017

Junaid Younas Muhammad Zeshan Afzal Muhammad Imran Malik Faisal Shafait Paul Lukowicz Sheraz Ahmed

14th IAPR International Conference on Document Analysis and Recognition held from 9-15 Nov 2017 in Japan, res.country(113,)

Citations: N/A
DOI: 10.1109/ICDAR.2017.49

Table Detection using Deep Learning 2017

Azka Gilani Shah Rukh Qasim Imran Malik Faisal Shafait

14th IAPR International Conference on Document Analysis and Recognition held from 9-15 Nov 2017 in Japan, res.country(113,)

Citations: N/A
DOI: 10.1109/ICDAR.2017.131

AirScript - Creating Documents in Air 2017

Ayushman Dash Amit Sahu Rajveer Shringi John Gamboa Muhammad Zeshan Afzal Muhammad Imran Malik Andreas Dengel Sheraz Ahmed

14th IAPR International Conference on Document Analysis and Recognition held from 9-15 Nov 2017 in Japan, res.country(113,)

Citations: N/A
DOI: 10.1109/ICDAR.2017.153

Automatic Signature Segmentation Using Hyper-spectral Imaging 2016

Faisal Shafait Umair Muneer Butt Sheraz Ahmad Christian Nansen Ajmal Saeed Mian Muhammad Imran Malik

2016 15th International Conference on Frontiers in Handwriting Recognition (ICFHR), res.country(48,)

Citations: N/A
DOI: 10.1109/ICFHR.2016.0017

Book Chapters

Surface water pollution monitoring using the Internet of Things (IoT) and machine learning 2020

Hamza Khurshid Rafia Mumtaz Noor Alvi Faisal Shafait Sheraz Ahmed Muhammad Imran Malik Andreas Dengel Quanita Kiran

In: *Book on AI for Emerging Verticals Human-Robot Computing, Sensing and Networking*, Chapter 17, Pages 337-351

Citations: N/A
DOI: https://shop.theiet.org/ai-for-emerging-verticals

Editorial Activities

Sensors 2023

Edited Journal Issue / Proceeding / Book
Impact Factor: 3.9

2023

Reviewed Papers for Journals
Impact Factor: N/A

2023

Reviewed Papers for Journals
Impact Factor: N/A

2023

Reviewed Papers for Journals
Impact Factor: N/A

2023

Reviewed Papers for Journals
Impact Factor: N/A

2023

Reviewed Papers for Journals

Impact Factor: N/A

Reviewed Papers for Journals
Impact Factor: N/A

Editor in Chief of Journal
Impact Factor: N/A

Reviewed Papers for Journals
Impact Factor: N/A

Reviewed Papers for Journals
Impact Factor: N/A

Reviewed Papers for Journals
Impact Factor: 0

IEEE Transactions on Industrial Informatics
Reviewed Papers for Journals
Impact Factor: 11.648

International Journal on Document Analysis and Recognition
Reviewed Papers for Journals
Impact Factor: 3.348

Reviewed Papers for Journals

Reviewed Papers for Journals
Impact Factor: 1.228

Reviewed Papers for Journals
Impact Factor: 1.995

Reviewed Papers for Journals

Reviewed Papers for Journals
Impact Factor: 6.211

Reviewed Papers for Journals
Impact Factor: -

Reviewed Papers for Journals
Impact Factor: -

Reviewed Papers for Journals
Impact Factor: -

Reviewed Papers for Journals
Impact Factor: -

Reviewed Papers for Journals
Impact Factor: -

Reviewed Papers for Journals
Impact Factor: -