Hammad Raza

Defence Faculty

Pakistan Navy Engineering College

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About

Dr. Hammad Raza is working as Defence Faculty in the Pakistan Navy Engineering College. Dr. Hammad Raza has a PhD in Computer Vision, Rfid, Sensor Fusion, Machine Learning. Dr. Hammad Raza has published 30 research articles & conference papers having a citation count of 297, carried out 0 projects and filed 0 intellectual property.

Qualifications

PhD in Computer Vision, Rfid, Sensor Fusion, Machine Learning 2008 - 2013
Michigan State University , Pakistan

MS in Image Processing, Pattern Recognition, Computer Vision, Dsp 2004 - 2006
UET Taxila , Pakistan

BE in - 1993 - 1997
NED UET Karachi , Pakistan

Experience

Defence Faculty 2012- Present
Pakistan Navy Engineering College

Graduate Co-op 2013- Present
IBM Thomas J. Watson Research Center , IBM Thomas J. Watson Research Center, New York, USA

Awards

GEF Award 2013
Michigan State University Summer Graduate Excellence Fellowship (GEF) Award, 2013

Best Poster Award 2009
Third place best poster award in IEEE Southeastern Michigan Nanotechnology Conference, USA 2009

US Fulbright 2008
US Fulbright / HEC scholarship for PhD

HEC Fellowship 2006
HEC Fellowship for the International Research Support Initiative program, 2006 & Indigenous Fellowship for MS-PhD, 2004

CASE Talented Student 2006
CASE Talented Student Award for outstanding academic performance throughout the year 2006.

CASE Talented Student 2005
CASE Talented Student Award for outstanding academic performance throughout the year 2005.

Research Articles

Fire and smoke detection using two-stream spatiotemporal network 2025
Rafaqat Alam Khan Usama Ijaz Bajwa Hammad Raza Muhammad Waqas Anwar
Neural Computing and Applications, Pages 1-25
Impact Factor: N/A
DOI: 10.1007/s00521-025-11412-1

SurveillanceNet: Spatio-temporal anomaly identification in surveillance videos using two-stream CNN and LSTM 2025
Muhammad Salman Ghauri Usama Ijaz Bajwa Gulshan Saleem Hammad Raza Muhammad Waqas Anwar
Multimedia Tools and Applications, Pages 1-25

Impact Factor: N/A
DOI: 10.1007/s11042-025-20961-5

Beyond boundaries: Advancements in fire and smoke detection for indoor and outdoor surveillance feeds 2025

Rafaqat Alam Khan Usama Ijaz Bajwa Hammad Raza Muhammad Waqas Anwar
Engineering Applications of Artificial Intelligence, Volume:142, Article Number 109855
Impact Factor: 8.00 | **Quartile:** 1
DOI: 10.1016/j.engappai.2024.109855

Leveraging coverless image steganography to hide secret information by generating anime characters using GAN 2024

Hafiz Abdul Rehman Usama Ijaz Bajwa Rana Hammad Raza Sultan Alfarhood Mejdl Safran Fan Zhang
Expert Systems with Applications, Volume 248, Article Number 123420
Impact Factor: 8.5 | **Quartile:** 1 | **Citations:** 13
DOI: 10.1016/j.eswa.2024.123420

Degradation model and attention guided distillation approach for low resolution face recognition 2024

Mohsin Ullah Dr Imtiaz Ahmed Taj Dr Rana Hammad Raza
Expert Systems with Applications, Volume 243, Article Number: 122882
Impact Factor: 8.5 | **Quartile:** 1 | **Citations:** 3
DOI: 10.1016/j.eswa.2023.122882

Edge-Enhanced TempoFuseNet: A Two-Stream Framework for Intelligent Multiclass Video Anomaly Recognition in 5G and IoT Environments 2024

Gulshan Saleem Usama Ijaz Bajwa Rana Hammad Raza Fan Zhang
Future Internet, Volume 16, Issue 3, Article Number 83
Impact Factor: 2.800 | **Quartile:** 2 | **Citations:** 2
DOI: https://doi.org/10.3390/fi16030083

A robust deep networks based multi-object multi-camera tracking system for city scale traffic 2023

Muhammad Imran Zaman Usama Ijaz Bajwa Gulshan Saleem Rana Hammad Raza
Multimedia Tools and Applications, Pages 1-19
Impact Factor: 3.6 | **Quartile:** 2 | **Citations:** 8
DOI: https://doi.org/10.1007/s11042-023-16243-7

Multi-camera person re-identification using spatiotemporal context modeling 2023

Fatima Zulfiqar Usama Ijaz Bajwa Rana Hammad Raza
Neural Computing and Applications, Pages 1-26
Impact Factor: 6.0 | **Quartile:** 2 | **Citations:** 2
DOI: 10.1007/s00521-023-08799-0

Toward human activity recognition: a survey 2022

Gulshan Saleem Usama Ijaz Bajwa Hammad Raza
Neural Computing and Applications, Pages 1-38
Impact Factor: 6.0 | **Quartile:** 2 | **Citations:** 106
DOI: 10.1007/s0 0521-022-07937-4

Efficient anomaly recognition using surveillance videos 2022

Gulshan Saleem Usama Ijaz Bajwa Hammad Raza Fayez Hussain Alqahtani Amr Tolba Feng Xia
PeerJ Computer Science, Volume 8, Article Number e1117
Impact Factor: 3.8 | **Quartile:** 2 | **Citations:** 6
DOI: 10.7717/peerj-cs.1117

A Comprehensive Review of Vehicle Detection Techniques under Varying Moving Cast Shadow Conditions using Computer Vision and Deep Learning 2022

Muhammad Umair Arif Muhammad Umar Farooq Rana Hammad Raza Zain Lodhi Muhammad Abdur Rehman Hashmi
IEEE Access, Volume 10, Pages 104863-104886
Impact Factor: 3.476 | **Quartile:** 2 | **Citations:** 12
DOI: 10.1109/ACCESS.2022.3208568

Novel DEMON Spectra Analysis Techniques and Empirical Knowledge Based Reference Criterion for Acoustic Signal Classification 2022

Muhammad Abdur Rehman Hashmi Rana Hammad Raza
Journal of Electrical Engineering & Technology, Pages 1-18

Impact Factor: 1.528 | **Quartile:** 4 | **Citations:** 4
DOI: 10.1007/s42835-022-01167-3

Printed Circuit Board identification using Deep Convolutional Neural Networks to facilitate recycling 2022
Iftikhar A. Soomro Anser Ahmad Rana Hammad Raza
Resources, Conservation and Recycling , Volume 177, Article Number 105963
Impact Factor: 10.204 | **Quartile:** 1 | **Citations:** 24
DOI: 10.1016/j.resconrec.2021.105963

Efficient Video-based Vehicle Queue Length Estimation using Computer Vision and Deep Learning for an Urban Traffic Scenario 2021
Muhammad Umair Arif Muhammad Umar Farooq Hammad Raza Qian Chen Baher Abdulhai
Processes , Volume 9(10), Article Number 1786
Impact Factor: 2.847 | **Quartile:** 3 | **Citations:** 20
DOI: 10.3390/pr9101786

Anomaly Recognition from Surveillance Videos using 3D Convolution Neural Network 2021
Ramna Maqsood Gulshan Saleem Usama Ijaz Bajwa Muhammad Waqas Anwar Rana Hammad Raza
Multimedia Tools and Applications, Volume 80, Pages 18693-18716
Impact Factor: 2.577 | **Quartile:** 2 | **Citations:** 66
DOI: 10.1007/s11042-021-10570-3

Adaptive stochastic segmentation via energy-convergence for brain tumor in MR images 2017
LubnaFarhi Adeel Yousaf Rana Hammad Raza
Journal of Visual Communication and Image Representation, Volume: 46, Pages: 303-311
Impact Factor: 1.836 | **Quartile:** 2 | **Citations:** 31
DOI: DOI:10.1016/j.jvcir.2017.04.013

Using Relaxation to Fuse RFID and Vision for object tracking outdoors 2014
Hammad Raza George C. Stockman
International Journal of Computers and their Applications, International Journal of Computers and their Applications
Impact Factor: -
DOI: -

Conference Proceedings

Improved Vehicle Logo Detection and Recognition for Complex Traffic Environments Using Deep Learning Based Unwarping of Extracted Logo Regions in Varying Angles 2022
Zamra Sultan Muhammad Umar Farooq Rana Hammad Raza
Digital Interaction and Machine Intelligence, res.country(178,)
Citations: N/A
DOI: 10.1007/978-3-031-37649-8_2

Performance Comparison of Deep Residual Networks-Based Super Resolution Algorithms Using Thermal Images: Case Study of Crowd Counting 2021
Syed Zeeshan Rizvi Muhammad Umar Farooq Rana Hammad
9th Machine Intelligence and Digital Interaction Conference, res.country(178,)
Citations: N/A
DOI: https://doi.org/10.1007/978-3-031-11432-8_7

Fine-Grained Vehicle Classification in Urban Traffic Scenes using Deep Learning 2021
Syeda Aneeba Najeeb Rana Hammad Raza Adeel Yusuf Zamra Sultan
11th International Conference on Robotics, Vision, Signal Processing, and Power Applications (RoViSP), res.country(157,)
Citations: N/A
DOI: -

Effectiveness of State-of-the-Art Super Resolution Algorithms in Surveillance Environment 2020
Muhammad Ali Farooq Ammar Ali Khan Ansar Ahmad Rana Hammad Raza
8th Machine Intelligence and Digital Interaction Conference, res.country(178,)
Citations: N/A
DOI: 10.1007/978-3-030-74728-2_8

Evaluating Effect of Block Size in Compressed Sensing for Grayscale Images 2017
Muhammad Abdur Rehman Hashmi Rana Hammad Raza
2017 International Conference on Frontiers of Information Technology, res.country(177,)

Citations: N/A
DOI: 10.1109/FIT.2017.00034

Landmark based Audio Fingerprinting for Naval Vessels 2016

Muhammad Abdur Rehman Hashmi Rana Hammad Raza

2016 International Conference on Frontiers of Information Technology, res.country(177,)

Citations: N/A
DOI: 10.1109/FIT.2016.061

Comparative analysis of vehicle detection in urban traffic environment using Haar cascaded classifiers and blob statistics 2016

Yumnah Hasan Muhammad Umair Arif Amad Asif Rana Hammad Raza

Future Technologies Conference (FTC) 2016, res.country(233,)

Citations: N/A
DOI: DOI:10.1109/FTC.2016.7821660

Automatic Lesion Detection Systems (ALDS) for Skin Cancer Classification using SVM and Neural Classifers 2016

Muhammad Ali Farooq Muhammad Ali Farooq Muhammad Aatif Mobeen Azhar Rana Hammad Raza

2016 IEEE 16th International Conference on Bioinformatics and Bioengineering, res.country(227,)

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Automatic Lesion Detection System (ALDS) for Skin Cancer Classification Using SVM and Neural Classifiers 2016

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2016 IEEE 16th International Conference on Bioinformatics and Bioengineering, BIBE 2016, res.country(227,)

Citations: N/A
DOI: 10.1109/BIBE.2016.53

Detection and Classification of Vehicles in Varying Complexity of Urban Traffic Scenes 2016

Muhammad Umair Arif Zain ul Aabidin Lodhi Maheen Khan Rana Hammad Raza

Video Surveillance and Transportation Imaging Applications 2016, res.country(233,)

Citations: N/A
DOI: https://doi.org/10.2352/ISSN.2470-1173.2016.3.VSTIA-517

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International Symposium on Electronic Imaging Science and Technology 2016: Video Surveillance and Transportation Imaging Applications 2016, res.country(233,)

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Target tracking and surveillance by fusing Stereo and RFID information 2012

Hammad Raza George C. Stockman

Proceedings of SPIE - The International Society for Optical Engineering 8392:46, res.country(233,)

Citations: N/A
DOI: 10.1117/12.920526

Quantifying the causal interactions in the brain using a measure of directed transinformation 2008

Hammad Raza Selin Aviyente

Proceedings of the 30th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS'08 - "Personalized Healthcare through Technology", res.country(38,)

Citations: N/A
DOI: 10.1109/IEMBS.2008.4650044