

Muhammad Moazam Fraz

Professor

School of Electrical Engineering and Computer Science

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About

Dr. Muhammad Moazam Fraz is working as Professor in the School of Electrical Engineering and Computer Science. Dr. Muhammad Moazam Fraz has a PhD in Computer Vision and Pattern Recognition. Dr. Muhammad Moazam Fraz has published 136 research articles & conference papers having a citation count of 4526, carried out 14 projects and filed 13 intellectual property.

Qualifications

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| PhD in Computer Vision and Pattern Recognition Kingston University , United Kingdom | 2010 - 2013 |
| MS in Computer Software Engineering NUST, Islamabad , Pakistan | 2005 - 2008 |
| BS in Software Engineering Foundation University Islamabad , Pakistan | 1999 - 2003 |

Experience

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| Professor School of Electrical Engineering and Computer Science | 2023- Present |
| Associate Professor School of Electrical Engineering and Computer Science | 2019 - 2023 |
| Assistant Professor School of Electrical Engineering and Computer Science | 2014 - 2019 |
| Assistant Professor School of Electrical Engineering and Computer Science | 2014 - 2014 |
| Senior Research Fellow University of Warwick , Coventry, United Kingdom | 2018 - 2019 |
| Post Doctoral Research Asst. Kingston University London , Kingston Upon Thames, London | 2013 - 2014 |
| Principal Software Engineer Elixir Technologies Corporation , TF Complex | 2003 - 2010 |

Awards

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| SEECs Best Researcher SEECs Best Researcher 2020 | 2021 |
| World Top 2% researchers | 2020 |
| UK Alumni Award British Council's UK Alumni Awards 2020 in the Professional Achievement category | 2020 |
| Rutherford Fellowship Rutherford Visiting Fellow : The Alan Turing Institute United Kingdom (UK's National Center for Data Science and Artificial Intelligence) | 2018 |
| Best Graduate Award Gold Medal for 'Best Graduate Award' | 2003 |
| President's Gold Medal Gold Medal for securing Top Position in the batch. | 2003 |

Research Projects

National Projects

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| Interactive Wellness Monitoring Platform with KIOSK Interface and Gamification Funding Agency: NUST Amount: PKR 500,000.00 Status: Approved_inprocess | 2025 |
| Ba-Ikhtiyar Jawan: Upscaling & Digitisation of Vocational Education Curriculum in Pakistan Funding Agency: DAAD - German Academic Exchange Service Amount: PKR 59,589,000.00 Status: Approved_inprocess | 2025 |
| S2Cool : Super-efficient Sustainable Cooling Solution for All Applications Funding Agency: UK Research and Innovation Amount: PKR 93,850,000.00 Status: Approved_inprocess | 2025 |
| ICESCO Chair of Data Science and Analytics for Business at NUST Funding Agency: Islamic World Educational, Scientific and Cultural Organization (ICESCO) Amount: PKR 22,920,000.00 Status: Approved_inprocess | 2023 |
| Design and Development Indigenous BaatGPT with AGI Applications Support (Phase-I) Funding Agency: NUST Amount: PKR 80,000,000.00 Status: Completed | 2023 |
| CASREW : Uncovering Abiotic Stress in Rain-Fed Wheat Crop through UAV based Multi-Sensor Imagery Fusion Funding Agency: DAAD - German Academic Exchange Service Amount: PKR 15,406,148.00 Status: Approved_inprocess | 2023 |
| Towards on-device Classification of Fruit Diseases Funding Agency: NUST Amount: PKR 1,000,000.00 Status: Completed | 2022 |
| Enabling Smart Yield Boosting: Rice Phenology Estimation Using Airborne Multispectral Remote Sensing Data Funding Agency: DAAD Amount: PKR 8,711,605.00 Status: Completed | 2021 |
| CoPEST : Cotton Pest Prevalence Estimation System for Early Warning using UAV & AIoT Funding Agency: DAAD Germany Amount: PKR 7,934,530.00 Status: Approved_inprocess | 2021 |
| An AI enabled quasi-real-time water quality monitoring for early chemical and/or bio-contamination detection Funding Agency: Asi@Connect Amount: PKR 29,699,329.00 Status: Approved_inprocess | 2021 |
| PEEOS: Phenology Estimation of Rice and Wheat in Pakistan using Earth Observation Satellite Imagery Funding Agency: HEC Amount: PKR 19,950,000.00 Status: Completed | 2021 |
| AIDPath: AI based Digital Pathology for precision cancer diagnostics Funding Agency: NCAI Amount: PKR 1,368,000.00 Status: Completed | 2021 |

International Projects

Industry Projects

National Projects

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| 8th Quarterly Payment of NUST-OneScreen Collaboration Client: OneScreen Solution (registered as Clarylcon) Amount: PKR 1,506,176.00 Status: Completed | 2023 |
| SiBot: A Spin-Off Company of NUST Flagship Project BaatGPT Client: NUST Amount: PKR 80,000,000.00 Status: Approved_inprocess | 2024 |

International Projects

Research Articles

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| TVFace: towards large-scale unsupervised face recognition in video streams <i>Atif Khurshid Bostan Khan Muhammad Shahzad Muhammad Moazam Fraz</i> <i>Pattern Analysis and Applications</i> , Volume 28, Article Number 88 Impact Factor: 3.700 Quartile: 2 DOI: 10.1007/s10044-025-01464-3 | 2025 |
| CompSafeNano project: NanoInformatics approaches for safe-by-design nanomaterials <i>Muhammad Moazam Fraz Dimitrios Zouraris Angelos Mavrogiorgis Andreas Tsoumanis Laura Aliisa Saarimäki Giusy del Giudice Iseult Lynch Antreas Afantitis</i> <i>Computational and Structural Biotechnology Journal</i> , Volume:29, Pages 13-28 Impact Factor: 4.500 Quartile: 1 Citations: 2 DOI: 10.1016/j.csbj.2024.12.024 | 2025 |
| A two-stage regression framework for automated cephalometric landmark detection incorporating semantically fused anatomical features and multi-head refinement loss <i>Muhammad Anwaar Khalid Atif Khurshid Kanwal Zulfiqar Ulfat Bashir Muhammad Moazam Fraz</i> <i>Expert Systems with Applications</i> , Volume 255, Part D, Article Number 124840 Impact Factor: 7.500 Quartile: 1 Citations: 7 DOI: 10.1016/j.eswa.2024.124840 | 2024 |
| Beyond local patches: Preserving global-local interactions by enhancing self-attention via 3D point cloud tokenization <i>Muhammad Shahzad Saqib Ali Khan Muhammad Moazam Fraz Xiao Xiang Zhu Muhammad Qasim Khan</i> <i>Pattern Recognition</i> , Volume 155, Article Number 110712 Impact Factor: 7.500 Quartile: 1 DOI: 10.1016/j.patcog.2024.110712 | 2024 |
| Cloud security in the age of adaptive adversaries: A game theoretic approach to hypervisor-based intrusion detection <i>Sadia Ahsan Saadat Yasir Faheem Zainab Abaid Muhammad Moazam Fraz</i> <i>Journal of Systems Architecture</i> , Volume 156, Article Number 103281 Impact Factor: 3.8 Quartile: 1 DOI: https://doi.org/10.1016/j.sysarc.2024.103281 | 2024 |
| AFINITI: Attention-Aware Feature Integration for Nuclei Instance Segmentation and Type Identification <i>Esha Sadia Nasir Shahzad Rasool Raheel Nawaz Muhammad Moazam Fraz</i> <i>Neural Computing and Applications</i> , Pages 1-19 Impact Factor: 4.500 Quartile: 2 Citations: 1 DOI: 10.1007/s00521-024-10114-4 | 2024 |
| Vision Based 3D Localization of UAV Using Deep Image Matching <i>Mansoor Khurshid Muhammad Shahzad Hasan Ali Khattak Muhammad Imran Malik Muhammad Moazam Fraz</i> <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , Volume: 17, Pages: 12020-12030 Impact Factor: 4.700 Quartile: 1 Citations: 3 DOI: 10.1109/JSTARS.2024.3422310 | 2024 |
| Intelligent Fisheries: Cognitive Solutions for Improving Aquaculture Commercial Efficiency Through Enhanced Biomass Estimation and Early Disease Detection | 2024 |

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| <p><i>Kanwal Aftab Linda Tschirren Boris Pasini Peter Zeller Bostan Khan Muhammad Moazam Fraz</i> <i>Cognitive Computation</i> , Volume: 16, Pages: 2241-2263, Impact Factor: 4.3 Quartile: 1 Citations: 3 DOI: 10.1007/s12559-024-10292-2</p> | |
| <p>From Pixels to Prognosis: A Survey on AI-Driven Cancer Patient Survival Prediction Using Digital Histology Images <i>Muhammad Moazam Fraz Arshi Pervaiz Esha Sadia Nasir</i> <i>Journal of Imaging Informatics in Medicine</i>, Pages 1-24 Impact Factor: N/A Citations: 4 DOI: https://doi.org/10.1007/s10278-024-01049-2</p> | 2024 |
| <p>PakVehicle-ReID: a multi-perspective benchmark for vehicle re-identification in unconstrained urban road environment <i>Hasan Ali Asghar Bostan Khan Zuhair Zafar Aznul Qalid Md Sabri Muhammad Moazam Fraz</i> <i>Multimedia Tools and Applications</i> , Pages 1-16 Impact Factor: 3.6 Quartile: 2 Citations: 4 DOI: https://doi.org/10.1007/s11042-023-17070-6</p> | 2023 |
| <p>CGA-Net: channel-wise gated attention network for improved super-resolution in remote sensing imagery <i>Bostan Khan Adeel Mumtaz Zuhair Zafar Mohamed Sedkey Elhadj Benkhelifa Muhammad Moazam Fraz</i> <i>Machine Vision and Applications</i> , Volume 34, Issue 6, Article Number 128 Impact Factor: 3.3 Quartile: 2 Citations: 3 DOI: 10.1007/s00138-023-01477-0</p> | 2023 |
| <p>Person re-identification: A retrospective on domain specific open challenges and future trends <i>Asmat Zahra Nazia Perwaiz Muhammad Shahzad Muhammad Moazam Fraz</i> <i>Pattern Recognition</i> , Volume 142, Article Number: 109669 Impact Factor: 8.0 Quartile: 1 Citations: 58 DOI: 10.1016/j.patcog.2023.109669</p> | 2023 |
| <p>Breast lesions segmentation and classification in a two-stage process based on Mask-RCNN and Transfer Learning <i>Hama Soltani Mohamed Amroune Issam Bendib Mohamed-Yassine Haouam Elhadj Benkhelifa Muhammad Moazam Fraz</i> <i>Multimedia Tools and Applications</i> , Pages 1-18 Impact Factor: 3.6 Quartile: 2 Citations: 5 DOI: https://doi.org/10.1007/s11042-023-16895-5</p> | 2023 |
| <p>Boosting facial recognition capability for faces wearing masks using attention augmented residual model with quadruplet loss <i>Muhammad Aasharib Nawshad Ahsan Saadat Muhammad Moazam Fraz</i> <i>Machine Vision and Applications</i> , Volume 34, Issue 6, Article Number 108 Impact Factor: 3.3 Quartile: 2 Citations: 4 DOI: https://doi.org/10.1007/s00138-023-01461-8</p> | 2023 |
| <p>Vision Transformers in medical computer vision—A contemplative retrospection <i>Arshi Pervaiz Muhammad Anwar Khalid Rukhsana Zafar Huma Ameer Muhammad Ali Muhammad Moazam Fraz</i> <i>Engineering Applications of Artificial Intelligence</i> , Volume 122, Article Number 106126 Impact Factor: 7.802 Quartile: 1 Citations: 166 DOI: https://doi.org/10.1016/j.engappai.2023.106126</p> | 2023 |
| <p>TransPose Re-ID: transformers for pose invariant person Re-identification <i>Nazia Perwaiz Muhammad Shahzad Muhammad Moazam Fraz</i> <i>Journal of Experimental & Theoretical Artificial Intelligence</i>, Pages:14 Impact Factor: 2.296 Quartile: 3 DOI: 10.1080/0952813X.2023.2214570</p> | 2023 |
| <p>Nuclei probability and centroid map network for nuclei instance segmentation in histology images <i>Syed Naayan Rashid Muhammad Moazam Fraz</i> <i>Neural Computing and Applications</i>, Vol:35, Pages15447-15460 Impact Factor: 6.0 Quartile: 2 Citations: 13 DOI: 10.1007/s00521-023-08503-2</p> | 2023 |

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| Robust malware clustering of windows portable executables using ensemble latent representation and distribution modeling <i>Syed Khurram Jah Rizwi Muhammad Moazam Fraz</i> <i>Concurrency and Computation Practice and Experience</i> , Volume 35, Issue 8, Article Number e7621 Impact Factor: 1.831 Quartile: 3 DOI: https://doi.org/10.1002/cpe.7621 | 2023 |
| Residual learning with annularly convolutional neural networks for classification and segmentation of 3D point clouds <i>Rabbia Hassan Muhammad Moazam Fraz Muhammad Shahzad Muhammad Asif Ali Rajput</i> <i>Neurocomputing</i> , Volume 526, Pages 96-108 Impact Factor: 5.779 Quartile: 2 Citations: 15 DOI: 10.1016/j.neucom.2023.01.026 | 2023 |
| Ubiquitous vision of transformers for person re-identification <i>Nazia Perwaiz Muhammad Shahzad Muhammad Moazam Fraz</i> <i>Machine Vision and Applications</i> , Volume 34, Issue 2, Article Number 27 Impact Factor: 2.983 Quartile: 2 Citations: 6 DOI: 10.1007/s00138-023-01376-4 | 2023 |
| Attention augmented distance regression and classification network for nuclei instance segmentation and type classification in histology images <i>Ghulam Murtaza Dogar Muhammad Moazam Fraz Muhammad Shahzad</i> <i>Biomedical Signal Processing and Control</i> , Volume 79, Part 2, Article Number 104199 Impact Factor: 5.076 Quartile: 2 Citations: 24 DOI: 10.1016/j.bspc.2022.104199 | 2023 |
| Nuclei and glands instance segmentation in histology images: a narrative review <i>Esha Sadia Nasir Arshi Pervaiz Muhammad Moazam Fraz</i> <i>Artificial Intelligence Review</i> , Pages 1-56 Impact Factor: 9.588 Quartile: 1 Citations: 13 DOI: 10.1007/s10462-022-10372-5 | 2022 |
| Smart surveillance with simultaneous person detection and re-identification <i>Nazia Perwaiz Muhammad Moazam Fraz Muhammad Shahzad</i> <i>Multimedia Tools and Applications</i> , Pages 1-22 Impact Factor: 2.577 Quartile: 2 Citations: 3 DOI: 10.1007/s11042-022-13458-y | 2022 |
| Per-former: rethinking person re-identification using transformer augmented with self-attention and contextual mapping <i>Nazia Perwaiz Muhammad Moazam Fraz Muhammad Shahzad</i> <i>Visual Computer</i> , Pages 1-16 Impact Factor: 2.835 Quartile: 2 Citations: 7 DOI: 10.1007/s00371-022-02577-0 | 2022 |
| Orientation aware weapons detection in visual data: a benchmark dataset <i>Nazeef Ul Haq Muhammad Moazam Fraz Tufail Sajjad Shah Hashmi Muhammad Shahzad</i> <i>Computing</i> , Pages 1-24 Impact Factor: 2.420 Quartile: 2 Citations: 6 DOI: https://doi.org/10.1007/s00607-022-01095-0 | 2022 |
| Detection and Grading of Hypertensive Retinopathy Using Vessels Tortuosity and Arteriovenous Ratio <i>Sufian Al Badawi Muhammad Moazam Fraz Muhammad Shahzad Imran Mahmood Sajid Javed Emad Mosalam Ajay Kamath Nileshwar</i> <i>Journal of Digital Imaging</i> , Pages 1-21 Impact Factor: 4.056 Quartile: 1 Citations: 28 DOI: 10.1007/s10278-021-00545-z | 2022 |
| PROUD-MAL: static analysis-based progressive framework for deep unsupervised malware classification of windows portable executable <i>Syed Khurram Jah Rizwi Warda Aslam Muhammad Shahzad Shahzad Saleem Muhammad Moazam Fraz</i> <i>Complex & Intelligent Systems</i> , Pages 1-13 Impact Factor: 4.927 Quartile: 2 Citations: 32 DOI: https://doi.org/10.1007/s40747-021-00560-1 | 2021 |

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| A multiapproach generalized framework for automated solution suggestion of support tickets <i>Syed S. Ali Zaidi Muhammad Moazam Fraz Muhammad Shahzad Sharifullah Khan</i> <i>International Journal of Intelligent Systems</i> , Pages 1-28 Impact Factor: 8.709 Quartile: 1 Citations: 14 DOI: https://doi.org/10.1002/int.22701 | 2021 |
| Stochastic attentions and context learning for person re-identification <i>Nazia Perwaiz Muhammad Moazam Fraz Muhammad Shahzad</i> <i>PeerJ Computer Science</i> , Volume 7, Article Number e447 Impact Factor: 2.411 Quartile: 2 Citations: 7 DOI: 10.7717/peerj-cs.447 | 2021 |
| Spectrum of Advancements and Developments in Multidisciplinary Domains for Generative Adversarial Networks (GANs) <i>Syed Khurram Jah Rizwi Muhammad Moazam Fraz Muhammad Ajmal Azad</i> <i>Archives of Computational Methods in Engineering</i> , Pages 1-19 Impact Factor: 7.302 Quartile: 1 Citations: 25 DOI: https://doi.org/10.1007/s11831-021-09543-4 | 2021 |
| Modeling, simulation and forecasting of wind power plants using agent-based approach <i>Imran Mahmood Anis-ur-Rahman Mahe Mobeen Shahzad Younis Asad Waqar Malik Muhammad Moazam Fraz Kafait Ullah</i> <i>Journal of Cleaner Production</i> , Volume 276, Article Number 124172 Impact Factor: 9.297 Quartile: 1 Citations: 15 DOI: https://doi.org/10.1016/j.jclepro.2020.124172 | 2020 |
| Motion Reveal Emotions: Identifying Emotions from Human Walk Using Chest Mounted Smartphone <i>Muhammad Zeeshan Muhammad Arslan Hashmi Qaiser Riaz Muhammad Shahzad Muhammad Moazam Fraz</i> <i>IEEE Sensors Journal</i> , Volume 20, Issue 22, Pages 13511-13522 Impact Factor: 3.301 Quartile: 2 Citations: 34 DOI: 10.1109/JSEN.2020.3004399 | 2020 |
| DCARN: Deep Context Aware Recurrent Neural Network for Semantic Segmentation of Large Scale Unstructured 3D Point Cloud <i>Muhammad Moazam Fraz Saba Mehmood Muhammad Shahzad</i> <i>Neural Processing Letters</i> , Volume 39, Issue 7, Pages 2395-2405 Impact Factor: 2.908 Quartile: 2 Citations: 2 DOI: 10.1007/s11063-020-10368-8 | 2020 |
| Context-Aware Convolutional Neural Network for Grading of Colorectal Cancer Histology Images <i>Muhammad Shaban Ruqayya Awan Muhammad Moazam Fraz Ayesha Azam Yee-Wah Tsang David Snead Nasir M Rajpoot</i> <i>IEEE Transactions on Medical Imaging</i> , Volume 39, Issue 7, Pages 2395-2405 Impact Factor: 10.048 Quartile: 1 Citations: 132 DOI: https://doi.org/10.1109/TMI.2020.2971006 | 2020 |
| Cellular community detection for tissue phenotyping in colorectal cancer histology images <i>Sajid Javaid Arif Mehmood Muhammad Moazam Fraz Navid AlemiKoohbanani Ksenija Benes Yee-WahTsang Katherine Hewitt David Epstein David Snead Nasir M Rajpoot</i> <i>Medical Image Analysis</i> , Volume 63, Article Number 101696 Impact Factor: 8.545 Quartile: 1 Citations: 123 DOI: https://doi.org/10.1016/j.media.2020.101696 | 2020 |
| Multi-sized Object Detection Using Spaceborne Optical Imagery <i>Muhammad Haroon Muhammad Shahzad Muhammad Moazam Fraz</i> <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , Volume 13, Pages 3032-3046 Impact Factor: 3.784 Quartile: 2 Citations: 51 DOI: 10.1109/JSTARS.2020.3000317 | 2020 |
| On the frontiers of pose invariant face recognition: a review <i>Sheikh Bilal Ahmed Syed Farooq Ali Jameel Ahmad Muhammad Adnan Muhammad Moazam Fraz</i> <i>Artificial Intelligence Review</i> , Volume 53, Issue 5, Pages 2571-263 Impact Factor: 8.139 Quartile: 1 Citations: 31 DOI: 10.1007/s10462-019-09742-3 | 2020 |
| Dense-CaptionNet: a Sentence Generation Architecture for Fine-grained Description of Image Semantics | 2020 |

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| <p><i>Imran Khurram Muhammad Moazam Fraz Muhammad Shahzad Nasir M Rajpoot</i> <i>Cognitive Computation</i> , Pages 1-27</p> <p>Impact Factor: 5.418 Quartile: 1 Citations: 11 DOI: https://doi.org/10.1007/s12559-019-09697-1</p> | |
| <p>A vehicular network–based intelligent transport system for smart cities</p> <p><i>Tayyaba Zaheer Muhammad Moazam Fraz Asad Waqar Malik Ayesha Zahir Anis-ur-Rahman</i> <i>International Journal of Distributed Sensor Networks.</i>, Volume: 15, issue: 11, Article Number: 1550147719888845</p> <p>Impact Factor: 1.151 Quartile: 4 Citations: 21 DOI: https://doi.org/10.1177/1550147719888845</p> | 2019 |
| <p>FABnet: feature attention-based network for simultaneous segmentation of microvessels and nerves in routine histology images of oral cancer</p> <p><i>Muhammad Moazam Fraz Syed Ali Khurram S. Graham Muhammad Shaban Maryam Hassan Asif Loya Nasir M Rajpoot</i> <i>Neural Computing and Applications</i> , Pages 1-14</p> <p>Impact Factor: 4.774 Quartile: 1 Citations: 48 DOI: https://doi.org/10.1007/s00521-019-04516-y</p> | 2019 |
| <p>A Novel Digital Score for Abundance of Tumour Infiltrating Lymphocytes Predicts Disease Free Survival in Oral Squamous Cell Carcinoma</p> <p><i>Najah Alsubaie Iqra Masood Sajid Mushtaq Mariam Hassan Asif Loya Nasir M. Rajpoot Muhammad Moazam Fraz Muhammad Shaban Syed Ali Khurram</i> <i>Nature Scientific Reports</i> , Volume 9, Article Number 13341</p> <p>Impact Factor: 3.998 Quartile: 2 Citations: 157 DOI: 10.1038/s41598-019-49710-z</p> | 2019 |
| <p>VR-PROUD: Vehicle Re-identification using PROgressive Unsupervised Deep architecture</p> <p><i>Muhammad Shahzad Raja Muhammad Saad Bashir Muhammad Moazam Fraz</i> <i>Pattern Recognition</i> , Volume: 90 Pages: 52-65, June 2019</p> <p>Impact Factor: 7.196 Quartile: 1 Citations: 61 DOI: 10.1016/j.patcog.2019.01.008</p> | 2019 |
| <p>DPRNet: Deep 3D Point based Residual Network for Semantic Segmentation and Classification of 3D Point Clouds</p> <p><i>Muhammad Shahzad Saira Arshad Qaiser Riaz Muhammad Moazam Fraz</i> <i>IEEE Access</i> , Volume: 7, Pages: 68892-68904</p> <p>Impact Factor: 3.745 Quartile: 1 Citations: 30 DOI: 10.1109/ACCESS.2019.2918862</p> | 2019 |
| <p>Multiloss Function Based Deep Convolutional Neural Network for Segmentation of Retinal Vasculature into Arterioles and Venules</p> <p><i>Muhammad M. Fraz Sufian Al Badawi</i> <i>BioMed Research International</i> , BIOMED RESEARCH INTERNATIONAL Article Number: 4747230, 2019</p> <p>Impact Factor: 2.276 Quartile: 3 Citations: 19 DOI: 10.1155/2019/4747230</p> | 2019 |
| <p>Retinal Vasculometry Associations with Cardiometabolic Risk Factors in the European Prospective Investigation of Cancer-Norfolk Study</p> <p><i>Christopher G. Owen Alicja R. Rudnicka Roshan A. Welikala Sarah A. Barman Robert Luben Shabina A Hayat Paul J Foster, Kay-Tee Khaw David P Strachan Peter H Whincup Muhammad Moazam Fraz</i> <i>Ophthalmology</i> , Ophthalmology, Volume: 126, Issue: 1, Pages: 96-106, January 2019</p> <p>Impact Factor: 8.470 Quartile: 1 Citations: 57 DOI: 10.1016/j.ophtha.2018.07.022</p> | 2019 |
| <p>Person Re-Identification Using Hybrid Representation Reinforced by Metric Learning</p> <p><i>Muhammad Shahzad Nazia Perwaiz Muhammad Moazam Fraz</i> <i>IEEE Access</i> , Volume: 6 Pages: 77334-77349 , November 2018</p> <p>Impact Factor: 4.098 Quartile: 1 Citations: 32 DOI: 10.1109/ACCESS.2018.2882254</p> | 2018 |
| <p>Optimizing the trainable B-COSFIRE filter for retinal blood vessel segmentation</p> <p><i>Muhammad M. Fraz Sufian Al Badawi</i> <i>PeerJ</i> , PEERJ Volume: 6 Article Number: e5855, November 2018</p> <p>Impact Factor: 2.358 Quartile: 2 Citations: 18 DOI: 10.7717/peerj.5855</p> | 2018 |

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| Computational Methods for Exudates Detection and Macular Edema Estimation in Retinal Images: A Survey <i>M. Bader Dr Asad Waqar Malik S. A. Barman Muhammad Moazam Fraz</i> <i>Archives of Computational Methods in Engineering</i> Impact Factor: 7.242 Quartile: 1 Citations: 17 DOI: 10.1007/s11831-018-9281-4 | 2018 |
| A Correction to the Article "Fast Optic Disc Segmentation in Retina Using Polar Transform" <i>Muhammad Moazam Fraz Muhammad Nauman Zahoor</i> <i>IEEE Access</i> , Volume: 6) Page(s): 4845-4849 Impact Factor: 4.098 Quartile: 1 Citations: 16 DOI: 10.1109/ACCESS.2018.2790040 | 2018 |
| Fast Optic Disc Segmentation in Retina Using Polar Transform <i>Muhammad Moazam Fraz Muhammad Nauman Zahoor</i> <i>IEEE Access</i> , Volume 5, Pages 12293-12300 Impact Factor: 3.557 Quartile: 1 Citations: 77 DOI: DOI:10.1109/ACCESS.2017.2723320 | 2017 |
| Computer Vision Techniques Applied for Diagnostic Analysis of Retinal OCT Images: A Review <i>Muhammad Usman Sarah A. Barman Muhammad Moazam Fraz</i> <i>Archives of Computational Methods in Engineering</i> , Volume 24, Issue 3, Pages 449-465 Impact Factor: 6.605 Quartile: 1 Citations: 18 DOI: 10.1007/s11831-016-9174-3 | 2017 |
| Multiscale segmentation of exudates in retinal images using contextual cues and ensemble classification <i>Muhammad Moazam Fraz Saqib Zahid Waqas Jahangir Mian Hamayun Sarah A Barman</i> <i>Biomedical Signal Processing and Control</i> , BIOMEDICAL SIGNAL PROCESSING AND CONTROL Volume: 35 Pages: 50-62, 1 May 2017 Impact Factor: 2.783 Quartile: 2 Citations: 85 DOI: 10.1016/j.bspc.2017.02.012 | 2017 |
| Localization and segmentation of optic disc in retinal images using circular Hough transform and grow-cut algorithm <i>Muhammad Moazam Fraz M. Abdullah S. A. Barman</i> <i>PeerJ</i> , Volume: 4 Article Number: e2003 Impact Factor: 2.177 Quartile: 2 Citations: 105 DOI: 10.7717/peerj.2003 | 2016 |
| Automated retinal image quality assessment on the UK Biobank dataset for epidemiological studies <i>RA Welikala Muhammad Moazam Fraz PJ Foster PH Whincup AR Rudnicka G Owen DP Strachan SA Barman</i> <i>Computers in Biology and Medicine</i> , Volume: 71 Pages: 67-76, Impact Factor: 1.836 Quartile: 2 Citations: 60 DOI: 10.1016/j.combiomed.2016.01.027 | 2016 |
| QUARTZ: Quantitative Analysis of Retinal Vessel Topology and size - An automated system for quantification of retinal vessels morphology <i>Muhammad Moazam Fraz R.A.Welikala A.R.Rudnicka C.G.Owen D.P.Strachan S.A.Barman</i> <i>Expert Systems with Applications</i> , ISSN:0957-4174, Volume 42, Issue 20, Pages 7221-7234, 15 November 2015, EXPERT SYSTEMS WITH APPLICATIONS Volume: 42 Issue: 20 Pages: 7221-7234, 15 November 2015 Impact Factor: 2.981 Quartile: 1 Citations: 68 DOI: 10.1016/j.eswa.2015.05.022 | 2015 |
| Genetic algorithm based feature selection combined with dual classification for the automated detection of proliferative diabetic retinopathy <i>R.A.Welikala Muhammad Moazam Fraz J. Dehmeshki A. Hoppe V. Tah S. Mann T.H. Williamson S. A. Barman</i> <i>Computerized Medical Imaging and Graphics</i> , Volume 43, Pages 64-77 Impact Factor: 1.385 Quartile: 3 Citations: 147 DOI: https://doi.org/10.1016/j.compmedimag.2015.03.003 | 2015 |
| Optic disc detection and boundary extraction in retinal images <i>A. Basit Muhammad Moazam Fraz</i> <i>Applied Optics</i> , APPLIED OPTICS Volume: 54 Issue: 11 Pages: 3440-3447, 10 April 2016 Impact Factor: 1.598 Quartile: 2 Citations: 40 DOI: 10.1364/AO.54.003440 | 2015 |

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| <p>Analyzing Fish Wellness Using Spatiotemporal Data & Behavior Recognition</p> <p><i>Kanwal Aftab Mammona Qudsia Usama Athar Muhammad Moazam Fraz</i> 19th IEEE International Conference on Emerging Technologies (ICET 2024), res.country(177,)</p> <p>Citations: N/A</p> <p>DOI: 10.1109/ICET63392.2024.10935173</p> | 2024 |
| <p>Analyzing Phenological Progression in Wheat Genotypes Through UAV Multispectral Imagery</p> <p><i>Usama Athar Zuhair Zafar Karsten Berns Muhammad Moazam Fraz Muhammad Ali</i> 19th IEEE International Conference on Emerging Technologies (ICET 2024), res.country(177,)</p> <p>Citations: N/A</p> <p>DOI: 10.1109/ICET63392.2024.10935250</p> | 2024 |
| <p>Content-Aware Entity Alignment: Utilizing Structural and Semantic Similarities for Enhanced Inter-Knowledge Graph Integration</p> <p><i>Faiqa Mehboob Fahaf Ahmed Satti Syed Imran Ali Muhammad Moazam Fraz</i> 4th International Conference on Digital Futures and Transformative Technologies (ICoDT2), res.country(177,)</p> <p>Citations: N/A</p> <p>DOI: 10.1109/ICoDT262145.2024.10740203</p> | 2024 |
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Editorial Activities

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| Reviewed Papers for Journals | |
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| Impact Factor: 7.5 | |
| Biomedical Signal Processing & Control | 2024 |
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| Engineering Applications of Artificial Intelligence Reviewed Papers for Journals Impact Factor: 8.0 | 2023 |
| Big Data Mining and Analytics Reviewed Papers for Journals Impact Factor: 13.6 | 2023 |
| IEEE Access Reviewed Papers for Journals Impact Factor: 3.476 | 2023 |
| IEEE Access Reviewed Papers for Journals Impact Factor: 3.476 | 2023 |
| IEEE Access Reviewed Papers for Journals Impact Factor: 3.476 | 2023 |
| IEEE Transactions on Medical Imaging Reviewed Papers for Journals Impact Factor: 11.037 | 2023 |
| Biomedical Signal Processing and Control Reviewed Papers for Journals Impact Factor: 5.076 | 2023 |
| Biomedical Signal Processing & Control < Reviewed Papers for Journals Impact Factor: 5.076 | 2023 |
| Biomedical Signal Processing and Control Reviewed Papers for Journals Impact Factor: 5.076 | 2023 |
| Biomedical Signal Processing and Control Reviewed Papers for Journals Impact Factor: 5.076 | 2023 |
| IEEE Transactions on Emerging Topics in Computational Intelligence Reviewed Papers for Journals Impact Factor: 4.851 | 2023 |
| Reviewed Papers for Journals Impact Factor: 3.47 | 2022 |
| Reviewed Papers for Journals Impact Factor: 3.367 | 2022 |
| Reviewed Papers for Journals Impact Factor: 1.773 | 2022 |
| Reviewed Papers for Journals Impact Factor: 3.36 | 2022 |
| Reviewed Papers for Journals Impact Factor: 3.367 | 2022 |
| Reviewed Papers for Journals Impact Factor: 3.367 | 2022 |
| Reviewed Papers for Journals Impact Factor: 10.04 | 2021 |

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| Reviewed Papers for Journals Impact Factor: 3.9 | 2021 |
| Reviewed Papers for Journals Impact Factor: 1.995 | 2021 |
| Reviewed Papers for Journals Impact Factor: 5.223 | 2021 |
| Reviewed Papers for Journals Impact Factor: 4.774 | 2021 |
| Reviewed Papers for Journals Impact Factor: 6.685 | 2021 |
| Reviewed Papers for Journals Impact Factor: 6.685 | 2021 |
| Reviewed Papers for Journals Impact Factor: 3.745 | 2021 |
| Reviewed Papers for Journals | 2020 |
| Reviewed Papers for Journals | 2020 |
| Reviewed Papers for Journals Impact Factor: 3.998 | 2020 |
| Reviewed Papers for Journals Impact Factor: 3.745 | 2020 |
| Reviewed Papers for Journals Impact Factor: 3.43 | 2020 |
| Edited Journal Issue / Proceeding / Book | 2020 |
| Reviewed Papers for Journals Impact Factor: 2.286 | 2020 |
| Reviewed Papers for Journals Impact Factor: 4.4 | 2020 |
| Reviewed Papers for Journals Impact Factor: 1.788 | 2020 |
| Reviewed Papers for Journals Impact Factor: 9.71 | 2020 |
| Reviewed Papers for Journals Impact Factor: 2.286 | 2019 |
| Reviewed Papers for Journals | 2019 |

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| Impact Factor: 2.286 | |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 4.292 | |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 2.591 | |
| Reviewed Papers for Journals | 2019 |
| Reviewed Papers for Journals | 2019 |
| Reviewed Papers for Journals | 2019 |
| Reviewed Papers for Journals | 2019 |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 7.816 | |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 7.816 | |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 4.664 | |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 4.098 | |
| Reviewed Papers for Journals | 2019 |
| Impact Factor: 7.816 | |
| Reviewed Papers for Journals | 2018 |
| Impact Factor: 7.816 | |
| Reviewed Papers for Journals | 2018 |
| Reviewed Papers for Journals | 2018 |
| Impact Factor: 6.13 | |
| Reviewed Papers for Journals | 2018 |
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| Reviewed Papers for Journals | 2018 |
| Reviewed Papers for Journals | 2018 |
| Reviewed Papers for Journals | 2018 |
| Reviewed Papers for Journals | 2018 |
| Impact Factor: 3.557 | |

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| Reviewed Papers for Journals Impact Factor: 2.11 | 2018 |
| Reviewed Papers for Journals Impact Factor: 3.557 | 2018 |
| Reviewed Papers for Journals Impact Factor: 3.557 | 2018 |
| Reviewed Papers for Journals | 2016 |

Intellectual Property

Copyrights

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| StreamFace: A framework for extraction of face datasets from YouTube videos and livestreams Status: Filed | 2023 |
| Improving the Face Recognition Algorithms for the Masked Faces Status: Filed | 2023 |
| Multi-modality in Visual Question Answering using Knowledge Graphs Status: Filed | 2023 |
| ActiPhe: A deep active learning framework for phenotypes labelling in unstructured EHRs Status: Filed | 2023 |
| Disease Specific Knowledge Graphs for Unstructured EMRs and Radiology Reports Status: Granted Filed | 2023 |
| Live News Channels Stream Analytics Framework Status: Granted Filed | 2022 |
| Knowledge-Aware Visual Question Answering Framework for developing visual learning apps for children Status: Granted Filed | 2022 |
| Orientation aware weapons detection in visual data Status: Filed | 2021 |
| Informative Attention Based Person Re-Identification for automated surveillance Status: Filed | 2021 |
| An Attention based Distance Regression CNN for Nuclei Instance Segmentation and Type Classification in Digitized Histology Images Status: Filed | 2021 |
| Static analysis based progressive framework for deep unsupervised malware classification of Windows portable executable Status: Granted Filed | 2021 |
| Stochastic attentions and context learning for person re-identification in surveillance data Status: Granted Filed | 2020 |

Patents

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| Improving Image Super Resolution using Squeeze-and-Residual-Excitation with Holistic Attention in Deep Neural Networks Status: Filed | 2021 |
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Industrial Designs

Trademarks

Trainings

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| Practical AI Simplified for Non-Computing Professionals Partner: 0 Duration: 02-Jul-2024 to 06-Sep-2024 | 2024 |
| Programming for AI Systems Partner: 0 Duration: 02-Jul-2024 to 21-Aug-2024 | 2024 |
| 5 day training on AI, Machine Learning & Data Science Partner: Pakistan Air Force Duration: 06-Sep-2021 to 10-Jan-2021 | 2021 |
| Edge Computing for Computer Vision Partner: NA Duration: 23-Aug-2021 to 27-Aug-2021 | 2021 |