

Muhammad Wajahat Hussain

Associate Professor
School of Electrical Engineering and Computer Science

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About

Dr. Muhammad Wajahat Hussain is working as Associate Professor in the School of Electrical Engineering and Computer Science. Dr. Muhammad Wajahat Hussain has a PhD in Robotics. Dr. Muhammad Wajahat Hussain has published 20 research articles & conference papers having a citation count of 143, carried out 9 projects and filed 0 intellectual property.

Qualifications

PhD in Robotics Universidad de Zaragoza , Spain	2011 - 2016
MS in Signal Processing Technische Universität München , Germany	2008 - 2011
BE in Electrical Engineering NUST, Islamabad , Pakistan	2003 - 2007

Experience

Associate Professor School of Electrical Engineering and Computer Science	2024- Present
Assistant Professor School of Electrical Engineering and Computer Science	2016 - 2016

Professional Memberships

PEC

Research Projects

National Projects

Evaluating the Higher Education in Pakistan: An Appraisal of Research Publication Landscape	2025
Funding Agency: PIDE	
Amount: PKR 3,206,808.00	
Status: Approved_inprocess	
RoboGuard: AI-Powered Automated Identity Verification of Persons at Entrance	2022
Funding Agency: NUST	
Amount: PKR 1,000,000.00	
Status: Approved_inprocess	
TexCAPTCHA	2019
Funding Agency: IGNITE	
Amount: PKR 65,000.00	
Status: Completed	
3D Mapping and Localization of Mini UAVs using Video Input	2019
Funding Agency: NESCOM	
Amount: PKR 100,000.00	
Status: Completed	
Deep Learning based Target Classification in Concealed Weapons Detection (CWD)	
Funding Agency: NESCOM	
Amount: PKR 100,000.00	
Status: Completed	
Development of Vision-Based Insect Flight Tracking Environment for Flight Performance Estimation of Perching & Prey-Predator Maneuvers	2020
Funding Agency: HEC	
Amount: PKR 11,146,025.00	
Status: Completed	
Development of a Small Scale Fully Autonomous Vehicle Capable of Path Planning in Unknown Environment	2019
Funding Agency: HEC	
Amount: PKR 5,890,000.00	
Status: Completed	

International Projects

Industry Projects

National Projects

Coding, Robotics and AI learning for primary grade students	2024
Client: Ministry of Federal Education and Professional Training	
Amount: PKR 163,920,000.00	
Status: Approved_inprocess	
Development of 3D Scanner for SubseaScanning Application	2024
Client: SubseaScanning AS	
Amount: PKR 9,213,120.00	
Status: Approved_inprocess	

International Projects

Research Articles

Help Me Through: Imitation Learning Based Active View Planning to Avoid SLAM Tracking Failures	2025
Kanwal Naveed Muhammad Wajahat Hussain Irfan Hussain Donghwan Lee Muhammad Latif Anjum	
IEEE Transactions on Robotics , Volume: 41, Page(s):4236-4252	
Impact Factor: 10.500 Quartile: 1	
DOI: 10.1109/TRO.2025.3582817	
Whispers in the air: Designing acoustic classifiers to detect fruit flies from afar	2025

<p><i>Muhammad Latif Anjum Salman Naveed Muhammad Wajahat Hussain Alia Khalid</i> <i>Smart Agricultural Technology</i> , Volume 10, Article Number 100738</p> <p>Impact Factor: 6.300 Quartile: 1 DOI: https://doi.org/10.1016/j.atech.2024.100738</p>	
<p>Out of dataset, out of algorithm, out of mind: a critical evaluation of AI bias against disabled people</p> <p><i>Mirza Rohan Manzoor Muhammad Wajahat Hussain Muhammad Latif Anjum</i> <i>AI & Society</i> , Pages 1-11</p> <p>Impact Factor: 2.900 Quartile: 2 DOI: https://doi.org/10.1007/s00146-024-02168-8</p>	2024
<p>Targeted adversarial attack on classic vision pipelines</p> <p><i>Kainat Riaz Muhammad Latif Anjum Muhammad Wajahat Hussain Rohan Manzoor</i> <i>Computer Vision and Image Understanding</i> , Volume 249, Article Number 104140</p> <p>Impact Factor: 4.300 Quartile: 1 DOI: https://doi.org/10.1016/j.cviu.2024.104140</p>	2024
<p>One step back, two steps forward: learning moves to recover from SLAM tracking failures</p> <p><i>Ans Hussain Qureshi Muhammad Latif Anjum Muhammad Wajahat Hussain Usama Mudassar Sohail Abbasi</i> <i>Advanced Robotics</i> , Volume: 38, Issue: 05, Pages 307-322</p> <p>Impact Factor: 2.000 Quartile: 4 Citations: 1 DOI: 10.1080/01691864.2024.2319144</p>	2024
<p>Why ORB-SLAM is missing commonly occurring loop closures?</p> <p><i>Muhammad Latif Anjum Muhammad Wajahat Hussain Saran Khaliq Muhammad Uzair Khattak Momen Rasool</i> <i>Autonomous Robots</i> , Volume 47, Issue 8, Pages 1519-1535</p> <p>Impact Factor: 3.5 Quartile: 2 Citations: 5 DOI: https://doi.org/10.1007/s10514-023-10149-x</p>	2023
<p>Augmentation-Assisted Robust Fringe Detection on Unseen Experimental Signals Applied to Optical Feedback Interferometry Using a Deep Network</p> <p><i>Sumair Saeed Khurshid Wajahat Hussain Usman Zabit Olivier Bernal</i> <i>IEEE Transactions on Instrumentation and Measurement</i> , Volume 72, Article Number 2508110</p> <p>Impact Factor: 5.332 Quartile: 1 Citations: 8 DOI: https://doi.org/10.1109/TIM.2023.3251409</p>	2023
<p>On Smart Gaze based Annotation of Histopathology Images for Training of Deep Convolutional Neural Networks</p> <p><i>Komal Mariam Osama Mohammed Afzal Wajahat Hussain Muhammad Umar Javed Amber Kiyani Nasir Rajpoot Syed Ali Khurram Hassan Aqeel Khan</i> <i>IEEE Journal of Biomedical and Health Informatics</i> , Volume 26, Issue 7, Pages 3025-3036</p> <p>Impact Factor: 7.021 Quartile: 1 Citations: 12 DOI: https://doi.org/10.1109/JBHI.2022.3148944</p>	2022
<p>Deep introspective SLAM: deep reinforcement learning based approach to avoid tracking failure in visual SLAM</p> <p><i>Kanwal Naveed Muhammad Latif Anjum Wajahat Hussain Donghwan Lee</i> <i>Autonomous Robots</i> , Pages 1-20</p> <p>Impact Factor: 3.255 Quartile: 3 Citations: 24 DOI: https://doi.org/10.1007/s10514-022-10046-9</p>	2022
<p>Perceptual Aliasing++: Adversarial Attack for Visual SLAM Front-end and Back-end</p> <p><i>Muhammad Haris Ikram Saran Khaliq Muhammad Latif Anjum Muhammad Wajahat Hussain</i> <i>IEEE Robotics and Automation Letters</i> , Volume 7, Issue 2, Pages 4670-4677</p> <p>Impact Factor: 3.741 Quartile: 2 Citations: 13 DOI: 10.1109/LRA.2022.3150031</p>	2022
<p>A First Look at Private Communications in Video Games using Visual Features</p> <p><i>Abdul Wajid Nasir Kamal Muhammad Sharjeel Raaez Muhammad Sheikh Huzaifa Bin Wasim Muhammad Hashir Ali Wajahat Hussain Syed Taha Ali Muhammad Latif Anjum</i> <i>Proceedings on Privacy Enhancing Technologies</i> , Volume 2021 (3), Pages 433–452</p> <p>Impact Factor: N/A DOI: 10.2478/popets-2021-0055</p>	2021
<p>A sketch is worth a thousand navigational instructions</p> <p><i>Haseeb Ahmad Sardar Muhammad Usama Wajahat Hussain Muhammad Latif Anjum</i></p>	2021

<p><i>Autonomous Robots</i> , Volume 45, Pages 313–333</p> <p>Impact Factor: 3.255 Quartile: 3 Citations: 6</p> <p>DOI: https://doi.org/10.1007/s10514-020-09965-2</p>		
<p>LTA*: Local tangent based A* for optimal path planning</p> <p><i>Muhammad Mateen Zafar Muhammad Latif Anjum Wajahat Hussain</i></p> <p><i>Autonomous Robots</i> , Pages 1-19</p> <p>Impact Factor: 3.255 Quartile: 3 Citations: 18</p> <p>DOI: https://doi.org/10.1007/s10514-020-09966-3</p>		2021
<p>Grey is the new RGB: How good is GAN-based image colorization for image compression?</p> <p><i>Aroosh Fatima Wajahat Hussain Aroosh Fatima Shahzad Rasool</i></p> <p><i>Multimedia Tools and Applications</i> , Volume 80, Pages 3775–3791</p> <p>Impact Factor: 2.577 Quartile: 2 Citations: 6</p> <p>DOI: https://doi.org/10.1007/s11042-020-09861-y</p>		2021
<p>Incorporating Scene Priors to Dense Monocular Mapping</p> <p><i>Alejo Concha Wajahat Hussain Luis Montano Javier Civera</i></p> <p><i>Autonomous Robots</i> , Volume 39, Issue 3, Pages 279-292, Special Issue SI</p> <p>Impact Factor: 1.547 Quartile: 2 Citations: 19</p> <p>DOI: 10.1007/s10514-015-9465-9</p>		2015
Conference Proceedings		
<p>Deeper Introspective SLAM: How to Avoid Tracking Failures Over Longer Routes?</p> <p><i>Kanwal Naveed Muhammad Latif Anjum Muhammad Wajahat Hussain Dong won Lee</i></p> <p><i>IEEE/RSJ International Conference on Intelligent Robots and Systems.</i>, res.country(2,)</p> <p>Citations: N/A</p> <p>DOI: Nil</p>		2024
<p>Adversarial Examples for Handcrafted Features</p> <p><i>Zohaib Ali Muhammad Latif Anjum Wajahat Hussain</i></p> <p><i>30th British Machine Vision Conference</i>, res.country(231,)</p> <p>Citations: N/A</p> <p>DOI: https://bmvc2019.org/wp-content/uploads/papers/0629-paper.pdf</p>		2019
<p>Dealing with small data and training blind spots in the Manhattan world</p> <p><i>Wajahat Hussain Javier Civera Luis Montano Martial Hebert</i></p> <p><i>2016 IEEE Winter Conference on Applications of Computer Vision (WACV)</i>, res.country(233,)</p> <p>Citations: 4</p> <p>DOI: 10.1109/WACV.2016.7477649</p>		2016
<p>Single Image 3D Without a Single 3D Image</p> <p><i>David F. Fouhey Wajahat Hussain Abhinav Gupta Martial Hebert</i></p> <p><i>2015 IEEE International Conference on Computer Vision (ICCV)</i>, res.country(46,)</p> <p>Citations: 14</p> <p>DOI: 10.1109/ICCV.2015.126</p>		2015
<p>Layout Aware Visual Tracking and Mapping</p> <p><i>Marta Salas Wajahat Hussain Alejo Concha Luis Montano Javier Civera J. M. M. Montiel</i></p> <p><i>2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)</i>, res.country(57,)</p> <p>Citations: 13</p> <p>DOI: 10.1109/IROS.2015.7353367</p>		2015

Editorial Activities

Reviewed Papers for Journals Impact Factor: 3.6	2021
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Reviewed Papers for Journals Impact Factor: 3.6	2020
Reviewed Papers for Journals Impact Factor: 3.6	2020
Reviewed Papers for Journals Impact Factor: 3.6	2020

Trainings

Advanced AI Bootcamp on Deep Neural Networks (DNN) Partner: Ashar Aziz Foundation Duration: 11-Aug-2023 to 17-Nov-2023	2023
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