

Shahzad Rasool

Assistant Professor

School of Interdisciplinary Engineering & Sciences

Email: shahzad.rasool@rcms.nust.edu.pk

Contact: 0515444089

LinkedIn:



About

Dr. Shahzad Rasool is working as Assistant Professor in the School of Interdisciplinary Engineering & Sciences. Dr. Shahzad Rasool has a PhD in Computer Engineering (Haptics). Dr. Shahzad Rasool has published 28 research articles & conference papers having a citation count of 186, carried out 9 projects and filed 2 intellectual property.

Qualifications

PhD in Computer Engineering (Haptics) Nanyang Technological University , Singapore	2010 - 2014
MS in Communication Engineering Technische Universität München , Germany	2007 - 2009
BS in Electrical Engineering UET Taxila , Pakistan	2003 - 2006

Experience

Assistant Professor School of Interdisciplinary Engineering & Sciences	2022- Present
Assistant Professor Research Centre for Modelling & Simulation	2019 - 2022
Assistant Professor Research Centre for Modelling & Simulation	2016 - 2019
Assistant Professor Research Centre for Modelling & Simulation	2016 - 2016
Resesarch Associate/Research Fellow Fraunhofer IDM@NTU , Nanyang Technological University, 50 Nanyang Avenue, Singapore	2012 - 2016

Awards

Best Paper Award International conference on Cyberworlds, Visby, Sweden	2015
School / College Best Researcher Award -2022	

Professional Memberships

PEC

Research Projects

National Projects

Managing Student Stress: Building an Application to Help Reduce Stress	2024
Funding Agency: NUST	
Amount: PKR 1,000,000.00	
Status: Approved_inprocess	
NUST Digital Twin through Advanced Modeling & Simulation	2024
Funding Agency: NUST	
Amount: PKR 50,000,000.00	
Status: Approved_inprocess	
Operator training for equipment maneuvering through restricted environments using VR	2023
Funding Agency: Pak Army	
Amount: PKR 4,868,600.00	
Status: Completed	
Virtual reality training simulator for critical multi-operator vehicle	2022
Funding Agency: Army	
Amount: PKR 50,097,472.00	
Status: Completed	
Simulation of vehicle operator procedures in virtual reality	2022
Funding Agency: Army	
Amount: PKR 2,000,000.00	
Status: Completed	
Tangible Video Communicaiton	2017
Funding Agency: HEC	
Amount: PKR 381,000.00	
Status: Completed	
Development of a Virtual Reality Training and Testing System for Learning in Complex Domains	2022
Funding Agency: HEC	
Amount: PKR 7,276,000.00	
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	
Tangible Video Communication	2017
Funding Agency: HEC	
Amount: PKR 381,000.00	
Status: Completed	

International Projects

Research Articles

Design, synthesis and analysis of Schiff based derivatives of Sulfadoxine drug and their metal complexes	2025
Arsh e mah Qaisar Hafsa Khan Uzma Habib Shahzad Rasool Amina Mumtaz Tariq Mahmud Muhammad Asim Raza Basra	
Results in Chemistry, Volume:17, Article Number 102560	
Impact Factor: 4.200 Quartile: 2	
DOI: 10.1016/j.rechem.2025.102560	
Enhancing Energy Conservation Behaviors Through Audio, Visual, and Social Cues in Virtual Reality	2025
Maria Maqbool Amna Khan Mehak Rafiq Shahzad Rasool	
Visual Computer , Pages 1-17	
Impact Factor: 3.000 Quartile: 2	
DOI: https://doi.org/10.1007/s00371-025-04003-7	

VR Stereo Thrills & Spills: An Immersive Virtual Reality Game for Enhancing Student Understanding of Stereoisomerism	2025
<i>Maira Sohail Uzma Habib Shahzad Rasool</i> <i>Journal of Chemical Education</i> , Volume 102, Issue 5, Pages 2002–2012 Impact Factor: 2.900 Quartile: 1 DOI: 10.1021/acs.jchemed.5c00112	
Prioritizing gut microbial SNPs linked to immunotherapy outcomes in NSCLC patients by integrative bioinformatics analysis	2025
<i>Muhammad Faheem Raziq Nadeem Khan Haseeb Manzoor Shahzad Rasool Mehak Rafiq Masood Ur Rehman Kayani Lisu Huang Hafiz Muhammad Adnan Tariq</i> <i>Journal of Translational Medicine</i> , Volume:23, Issue:1, Article Number: 343 Impact Factor: 6.100 Quartile: 1 DOI: https://doi.org/10.1186/s12967-025-06370-0	
AFINITI: Attention-Aware Feature Integration for Nuclei Instance Segmentation and Type Identification	2024
<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	
Analysis of Visual and Vestibular Information on Motion Sickness in Flight Simulation	2024
<i>Ahmad Javaid Shahzad Rasool Adnan Maqsood</i> <i>Aerospace</i> , Volume: 11, Issue: 02, Article Number: 139 Impact Factor: 2.6 Quartile: 1 Citations: 3 DOI: 10.3390/aerospace11020139	
Virtual Reality as a Medium of Asynchronous Content Delivery for Teaching about Enzymes	2023
<i>Irsa Abbasi Shahzad Rasool Uzma Habib</i> <i>Journal of Chemical Education</i> , Volume 100, Issue 3, Pages 1203-1210 Impact Factor: 3.208 Quartile: 2 Citations: 5 DOI: 10.1021/acs.jchemed.2c01113	
Game induced emotion analysis using electroencephalography	2022
<i>Amna Khan Shahzad Rasool</i> <i>Computers in Biology and Medicine</i> , Volume 145, Article Number 105441 Impact Factor: 7.7 Quartile: 1 Citations: 24 DOI: 10.1016/j.combiomed.2022.105441	
Grey is the new RGB: How good is GAN-based image colorization for image compression?	2021
<i>Aroosh Fatima Wajahat Hussain Aroosh Fatima Shahzad Rasool</i> <i>Multimedia Tools and Applications</i> , Volume 80, Pages 3775–3791 Impact Factor: 2.577 Quartile: 2 Citations: 6 DOI: https://doi.org/10.1007/s11042-020-09861-y	
Effect of Haptic Feedback on Pilot/Operator Performance during Flight Simulation	2020
<i>Hassam Ahmed Malik Shahzad Rasool Adnan Maqsood Rizwan Riaz</i> <i>Applied Sciences</i> , Volume 10 (11), Article Number 3877 Impact Factor: 2.679 Quartile: 2 Citations: 7 DOI: 10.3390/app10113877	
Interactive 3D Visualization of Chemical Structure Diagrams Embedded in Text to Aid Spatial Learning Process of Students	2020
<i>Amal Fatemah Shahzad Rasool Uzma Habib</i> <i>Journal of Chemical Education</i> , Volume 97(4), Pages 992-1000 Impact Factor: 2.979 Quartile: 2 Citations: 46 DOI: http://dx.doi.org/10.1021/acs.jchemed.9b00690	
Neurocognitive Tools for Assessing Haptic Interaction	2016
<i>Xiyuan Hou Yisi Liu Alexei Sourin Olga Sourina Shahzad Rasool</i> <i>International Journal of Psychophysiology</i> , Volume: 108 Pages: 147-147 Special Issue: SI Meeting Abstract: 204 Impact Factor: 2.582 Quartile: 2 DOI: 10.1016/j.ijpsycho.2016.07.426	
Real-time haptic interaction with RGBD video streams	2016

Alexei Sourin Shahzad Rasool
The Visual Computer , Volume: 32 Issue: 10 Pages: 1311-1321
Impact Factor: 1.468 | **Quartile:** 2 | **Citations:** 11
DOI: 10.1007/s00371-016-1224-1

Image-driven virtual simulation of arthroscopy Alexei Sourin Shahzad Rasool The Visual Computer , Volume: 29 Issue: 5 Pages: 333-344 Impact Factor: 1.073 Quartile: 2 Citations: 20 DOI: 10.1007/s00371-012-0736-6	2013
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Conference Proceedings

Beyond User Control: Exploring Hint System Design and Player Experience in Puzzle Games Raheela Raza Shahzad Rasool International Conference on Communication Technologies (ComTech) 2025, res.country(177,) Citations: N/A DOI: 10.1109/ComTech65062.2025.11034626	2025
A Framework for Cardboard based Augmented Reality Syed Rameez Rehman Shahzad Rasool 16th International Conference on Frontiers of Information Technology, res.country(177,) Citations: 1 DOI: 10.1109/FIT.2018.00057	2018
Assessing Haptic Video Interaction with Neurocognitive Tools Shahzad Rasool Xiyuan Hou Yisi Liu Alexei Sourin Olga Sourina 2016 IEEE International Conference on Systems, Man, and Cybernetics (SMC), res.country(99,) Citations: 3 DOI: 10.1109/SMC.2016.7844706	2016
Haptic interaction with video streams containing depth data Shahzad Rasool Alexei Sourin 2015 International Conference on Cyberworlds (CW) , res.country(196,) Citations: 1 DOI: 10.1109/CW.2015.43	2015
Multisensory experience with images Chen Kan Zhang Xingzi Shahzad Rasool Henry Johan Alexei Sourin 2014 International Conference on Cyberworlds , res.country(68,) Citations: 1 DOI: 10.1109/CW.2014.16	2014
Virtual Knee Arthroscopy Using Haptic Devices and Real Surgical Images Shahzad Rasool Alexei Sourin Vladimir Pestrikov Fareed Kagda International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management DHM 2014 res.country(88,) Citations: 1 DOI: 10.1007/978-3-319-07725-3_44	2014
Modeling arthroscopic camera with haptic devices in image-based virtual environments Shahzad Rasool Alexei Sourin Vladimir Pestrikov Fareed Kagda 2014 IEEE Haptics Symposium (HAPTICS) , res.country(233,) Citations: 1 DOI: 10.1109/HAPTICS.2014.6775489	2014
Image-driven Haptic Rendering in Virtual Environments Shahzad Rasool Alexei Sourin 2013 International Conference on Cyberworlds , res.country(113,) Citations: 6 DOI: 10.1109/CW.2013.28	2013
Towards Hand-Eye Coordination Training in Virtual Knee Arthroscopy Shahzad Rasool Alexei Sourin Xia Pingjun Bin Weng Fareed Kagda 19th ACM Symposium on Virtual Reality Software and Technology, res.country(197,) Citations: 5	2013

DOI: 10.1145/2503713.2503715	
Image-driven Haptic Simulation of Arthroscopic Surgery	2013
Shahzad Rasool Alexei Sourin Fareed Kagda	
Medicine Meets Virtual Reality 20, res.country(233,)	
Citations: 4	
DOI: 10.3233/978-1-61499-209-7-337	
Tangible images	2011
Shahzad Rasool Alexei Sourin	
SIGGRAPH Asia 2011 Sketches, res.country(94,)	
Citations: 12	
DOI: 10.1145/2077378.2077430	
Haptic interaction with 2D images	2011
Shahzad Rasool Alexei Sourin	
10th International Conference on Virtual Reality Continuum and Its Applications in Industry, res.country(94,)	
Citations: 10	
DOI: 10.1145/2087756.2087758	
Towards tangible images and videos in Cyberworlds: Function-based approach	2010
Shahzad Rasool Alexei Sourin	
2010 International Conference on Cyberworlds, CW 2010, res.country(197,)	
Citations: 8	
DOI: 10.1109/CW.2010.19	

Book Chapters

Image-Driven Haptic Rendering	2014
Alexei Sourin Shahzad Rasool	
In: Transactions on Computational Science XXIII, Pages 58-77	
Citations: 10	
DOI: 10.1007/978-3-662-43790-2_4	

Editorial Activities

Virtual Reality	2025
Reviewed Papers for Journals	
Impact Factor: 4.4	
Human Brain Mapping	2024
Reviewed Papers for Journals	
Impact Factor: 3.5	
The Visual Computer	2023
Reviewed Papers for Journals	
Impact Factor: 3.5	
Journal of Chemical Education	2023
Reviewed Papers for Journals	
Impact Factor: 3.0	
	2021
Reviewed Papers for Journals	
Impact Factor: 1.305	

Intellectual Property

Copyrights

Uraan	2021
Status: Filed	
Automatic 3D Visualization of Chemical Structures	2019
Status: Filed	

Patents

Industrial Designs

Trademarks