Rehan Ahmed

Assistant Professor

School of Electrical Engineering and Computer Science

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LinkedIn:

About

Dr. Rehan Ahmed is working as Assistant Professor in the School of Electrical Engineering and Computer Science. Dr. Rehan Ahmed has a PhD in Electrical Engineering. Dr. Rehan Ahmed has published 13 research articles & conference papers having a citation count of 151, carried out 11 projects and filed 0 intellectual property.

Qualifications

PhD in Electrical Engineering 2010 - 2015
University of British Columbia , Canada

MS in Communication Electronics 2007 - 2009
Technische Universität München , Germany

BS in Computer Engineering 2001 - 2004
UET Taxila , Pakistan

Experience

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

Assistant Professor 2023 - 2023
School of Electrical Engineering and Computer Science

Assistant Professor 2022 - 2017
School of Electrical Engineering and Computer Science

Assistant Professor 2017 - 2023
School of Electrical Engineering and Computer Science

Assistant Professor 2017 - 2017
School of Electrical Engineering and Computer Science

Lab Supervisor 2007 - 2022
School of Electrical Engineering and Computer Science

Senior Hardware Engineer 2015 - 2017
Keysight , Vancouver Canada

Assistant Manager Tech 2005 - 2007
NESCOM , NESCOM

Research Projects

National Projects

Indigenous Microprocessor 2023
Funding Agency: NUST
Amount: PKR 840,000.00
Status: Approved_inprocess

Event-Driven UAV Swarm Configuration Protocols 2021
Funding Agency: Defence R&D Dte
Amount: PKR 4,191,663.00
Status: Approved_inprocess

Antenna Tracking System for Multicopter UAVs 2022
Funding Agency: NESCOM
Amount: PKR 100,000.00
Status: Completed

Image Up-scaling using Deep Neural Networks 2020
Funding Agency: IGNITE
Amount: PKR 71,000.00
Status: Completed

Implementation of hardware accelerated Hough transform on image frame using FPGA SOC 2019
Funding Agency: NESCOM
Amount: PKR 200,000.00
Status: Completed

Development of Indigenous Silicon Proven Embedded Microprocessor 2021
Funding Agency: NUST
Amount: PKR 4,000,000.00
Status: Completed

Development of Smart Maintenance Software for Mini UAV 2022
Funding Agency: NESCOM
Amount: PKR 50,000.00
Status: Completed

Portar: Development of a Portable Radar for Tactical, Defense & Security Applications 2022
Funding Agency: HEC
Amount: PKR 18,750,000.00
Status: Approved_inprocess

Image Upscaling using Deep Neural Networks 2020
Funding Agency: IGNITE
Amount: PKR 71,000.00
Status: Completed

Custom Hardware Accelerator for Inference of Compressed Sparse Convolutional Neural Networks 2020
Funding Agency: IGNITE
Amount: PKR 47,000.00
Status: Completed

Random-Neighborhood-RAM: An FPGA-based Memory Architecture for Real-Time Image and Video Processing Algorithms 2017
Funding Agency: HEC
Amount: PKR 446,000.00
Status: Completed

International Projects

Research Articles

State-of-The-Art and Future Research Challenges in UAV Swarms 2024

Sadaf Javed Ali Hassan Rizwan Ahmad Waqas Ahmed Rehan Ahmed Ahsan Saadat Mohsen Guizani

IEEE Internet of Things Journal, Volume 11, Issue 11, Pages 19023-19045

Impact Factor: 8.200 | **Quartile:** 1 | **Citations:** 99

DOI: 10.1109/JIOT.2024.3364230

A UAV-Assisted Edge Framework for Real-Time Disaster Management 2023

Haris Ijaz Rizwan Ahmad Rehan Ahmed Waqas Ahmed Yan Kai Wu Jun

IEEE Transactions on Geoscience and Remote Sensing, Volume 61, Article Number 1001013

Impact Factor: 8.2 | **Quartile:** 1 | **Citations:** 23

DOI: 10.1109/TGRS.2023.3306151

Segmented Radon Fourier Transform for Long-Time Coherent Radars 2023

Musadiq Hussain Rehan Ahmed Hammad Cheema

IEEE Sensors Journal, Volume:23, Issue:9, Page:9582-9594

Impact Factor: 4.325 | **Quartile:** 1 | **Citations:** 14

DOI: 10.1109/JSEN.2023.3260024

SSCNets: Robustifying DNNs using Secure Selective Convolutional Filters 2020

Hassan Ali Faiq Khalid Hammad Ali Tariq Muhammad Abdullah Hanif Rehan Ahmed Semeen Rehman

IEEE Design & Test, Volume 37, Issue 2, Pages 58-65

Impact Factor: 1.527 | **Quartile:** 3 | **Citations:** 15

DOI: 10.1109/MDAT.2019.2961325

Conference Proceedings

FaDec: A Fast Decision-based Attack for Adversarial Machine Learning 2020

Faiq Khalid Hassan Ali Muhammad Abdullah Hanif Semeen Rehman Rehan Ahmed Muhammad Shafique Faiq Khalid Hassan Ali Muhammad Abdullah Hanif Semeen Rehman Rehan Ahmed Muhammad Shafique

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

Citations: N/A

DOI: 10.1109/IJCNN48605.2020.9207635

MemGANs: Memory Management for Energy-Efficient Acceleration of Complex Computations in Hardware Architectures for Generative Adversarial Networks 2019

Muhammad Abdullah Hanif Muhammad Zuhaib Akbar Semeen Rehman Axel Jantsch Muhammad Shafique Rehan Ahmed

2019 IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED), res.country(43,)

Citations: N/A

DOI: 10.1109/ISLPED.2019.8824833

TrISec: Training Data-Unaware Imperceptible Security Attacks on Deep Neural Networks 2019

Faiq Khalid Muhammad Abdullah Hanif Semeen Rehman Muhammad Shafique Rehan Ahmed

2019 IEEE 25th International Symposium on On-Line Testing And Robust System Design (IOLTS), res.country(88,)

Citations: N/A

DOI: 10.1109/IOLTS.2019.8854425

QuSecNets: Quantization-based Defense Mechanism for Securing Deep Neural Network against Adversarial Attacks 2019

Faiq Khalid Hassan Ali Hammad Tariq Muhammad Abdullah Hanif Semeen Rehman Muhammad Shafique Rehan Ahmed

2019 IEEE 25th International Symposium on On-Line Testing and Robust System Design (IOLTS), res.country(88,)

Citations: N/A

DOI: 10.1109/IOLTS.2019.8854377

Hierarchical Dynamic Power-Gating in FPGAs 2015

Rehan Ahmed Steven J.E. Wilton Peter Hallschmid Richard Klukas

Applied Reconfigurable Computing - 11th International Symposium, ARC, res.country(57,)

Citations: N/A

DOI: 10.1007/978-3-319-16214-0 3

High-level synthesis-based design methodology for dynamic power-gated FPGAs 2014

Rehan Ahmed Assem A. M. Bsoul Steven J. E. Wilton Peter Hallschmid Richard Klukas

2014 24th International Conference on Field Programmable Logic and Applications (FPL), res.country(57,)

Citations: N/A

DOI: 10.1109/FPL.2014.6927433

Modeling and Evaluation of Dynamic Partial Reconfigurable Datapaths for FPGA-Based Systems Using Stochastic Networks 2011

Rehan Ahmed Peter Hallschmid

2011 21st International Conference on Field Programmable Logic and Applications, res.country(88,)

Citations: N/A

DOI: 10.1109/FPL.2011.23

Towards Rapid Dynamic Partial Reconfiguration in Video-Based Driver Assistance Systems 2010

Christopher Claus Rehan Ahmed Florian Altenried Walter Stechele

6th international conference on Reconfigurable Computing: architectures, Tools and Applications, res.country(217,)

Citations: N/A

DOI: 10.1007/978-3-642-12133-3_8

Book Chapters

SoC-GANs: Energy-Efficient Memory Management for System-on-Chip Generative Adversarial Networks 2023

Rehan Ahmed Muhammad Zuhaib Akbar Muhammad Abdullah Hanif Muhammad Shafique

In: *Book on Embedded Machine Learning for Cyber-Physical, IoT, and Edge Computing*, 1st Edition, Chapter , Pages 253–274

Citations: N/A

DOI: https://doi.org/10.1007/978-3-031-19568-6_9

Editorial Activities

2021

Reviewed Papers for Journals
Impact Factor: 1.53

2019

Reviewed Papers for Journals
Impact Factor: 3.022