Mehreen Afzal

Associate Professor of Practice

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About

Dr. Mehreen Afzal is working as Associate Professor of Practice in the Military College of Signals. Dr. Mehreen Afzal has a PhD in Information Security. Dr. Mehreen Afzal has published 24 research articles & conference papers having a citation count of 319, carried out 0 projects and filed 0 intellectual property.

Qualifications

PhD in Information Security 2007 - 2010
NUST, Islamabad , Pakistan

MS in Information Security 2003 - 2007
NUST, Islamabad , Pakistan

MSc in Applied Mathematics 1993 - 1995
Quaid-i-Azam University , Pakistan

Experience

Associate Professor of Practice 2023- Present
Military College of Signals

Associate Professor of Practice 2022 - 2023
Military College of Signals

Adjunct Faculty 2020 - 2020
Military College of Signals

Adjunct Faculty 2018 - 2020
Military College of Signals

Chair Cyber Security Department 2021 - 2022
Air Univ , Islamabad

GM 2001 - 2021
NESCOM , Islamabad

Lecturer 1999 - 2001
Govt College Chakwal , Chakwal

Lecturer 1995 - 1999
Army Public College , Jhelum

Research Articles

SLF-ADM: Securing Linux frontiers: Advanced persistent threat (APT) detection using machine learning 2025

Mehreen Afzal Dawood Al Abri Yawar Abbas Mian Muhammad Waseem Iqbal S Sohaib Karim

Neural Computing and Applications, Pages 1-20

Impact Factor: N/A
DOI: doi.org/10.1007/s00521-025-11338-8

PQCAIE: Post quantum cryptographic authentication scheme for IoT-based e-health systems 2024

Khwaja Mansoor Mehreen Afzal Mian Muhammad Waseem Iqbal Dr. Yawar Abbas Bangash Shynar Zhenisbekovna Abdellah Chehri

Internet of Things, Volume:27, Article Number: 101228

Impact Factor: 6.0 | **Quartile:** 1 | **Citations:** 19
DOI: 10.1016/j.iot.2024.101228

The reality of backdoored S-Boxes—An eye opener 2024

Shah Fahd Mehreen Afzal Waseem Iqbal Dawood Shah Ijaz Khalid

Journal of Information Security and Applications, Volume 80, Article Number 103674

Impact Factor: 5.6 | **Quartile:** 2 | **Citations:** 5

DOI: https://doi.org/10.1016/j.jisa.2023.103674

Detection of non-trivial preservable quotient spaces in S-Box(es) 2023

Shah Fahd Mehreen Afzal Dawood Shah Mian Muhammad Waseem Iqbal Yawar Abbas Bangash

Neural Computing and Applications, Pages 1-13

Impact Factor: 6.0 | **Quartile:** 2

DOI: https://doi.org/10.1007/s00521-023-08654-2

A systematic threat analysis and defense strategies for the metaverse and extended reality systems 2023

Sara Qamar Zahid Anwar Dr. Mehreen Afzal

Computers and Security, Volume 128, Article Number:103127

Impact Factor: 5.105 | **Quartile:** 2 | **Citations:** 96

DOI: 10.1016/j.cose.2023.103127

A game model design using test bed for Malware analysis training 2022

Marium Khalid Mehreen Afzal Mian Muhammad Waseem Iqbal

Information and Computer Security, Volume 23, Issue 1, Pages 1-18

Impact Factor: N/A | **Citations:** 1

DOI: https://doi.org/10.1108/ICS-09-2021-0152

FBASHI: Fuzzy and Blockchain-Based Adaptive Security for Healthcare IoTs 2022

Zeeshan Zulkifl Fawad Khan Shahzaib Tahir Mehreen Afzal Mian Muhammad Waseem Iqbal Abdul Rehman Saqib Saeed Abdullah M. Almuhaideb

IEEE Access, Volume 10, Pages 15644-15656

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 63

DOI: 10.1109/ACCESS.2022.3149046

Behavioral Based Insider Threat Detection Using Deep Learning 2021

Mehreen Afzal Rabia Latif Mian Muhammad Waseem Iqbal Rida Nasir

IEEE Access, Volume 9, Pages 143266-143274

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 65

DOI: 10.1109/ACCESS.2021.3118297

Encryption and Re-Randomization Techniques for Malware Propagation 2021

Ahsan Rasheed Abbasi Mehreen Afzal Mian Muhammad Waseem Iqbal Shynar Mussiraliyeva Fawad Khan Awais Ur Rehman

IEEE Access, Volume 9, Pages 132522-132532

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 2

DOI: http://dx.doi.org/10.1109/access.2021.3112750

Enhanced Metamorphic Techniques-A Case Study Against Havex Malware 2021

Zainab Mumtaz Mehreen Afzal Mian Muhammad Waseem Iqbal Waqas Aman Naima Altaf

IEEE Access, Volume 9, Pages 112069-112080

Impact Factor: 3.476 | **Quartile:** 2 | **Citations:** 6

DOI: 10.1109/ACCESS.2021.3102073

Kleptographic Attack on Elliptic Curve Based Cryptographic Protocols 2020

Anum Sajjad Mehreen Afzal Mian Muhammad Waseem Iqbal Haider Abbas Rabia Latif Rana Aamir Raza

IEEE Access, Volume 8, Pages 139903-139917

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 8

DOI: 10.1109/ACCESS.2020.3012823

On the efficiency of software implementations of lightweight block ciphers from the perspective of programming languages 2020

Khawir Mahmood Abdur Rehman Raza Khan Muhammad Faisal Amjad Haider Abbas Mehreen Afzal

Future Generation Computer Systems, Volume:104, Page:43-59

Impact Factor: 7.187 | **Quartile:** 1 | **Citations:** 10

DOI: https://doi.org/10.1016/j.future.2019.09.058

Correlation power analysis of modes of encryption in AES and its countermeasures 2018

Shah Fahd Dr. Mehreen Afzal Dr. Haider Abbas Mian Muhammad Waseem Iqbal Salman Waheed

Future Generation Computer Systems, NULL

Impact Factor: 5.768 | **Quartile:** 1 | **Citations:** 23

DOI: 10.1016/j.future.2017.06.004

Algebraic Side Channel Attack on Trivium and Grain Ciphers 2017

ASIF RAZA KAZMI Mehreen Afzal MUHAMMAD FAISAL AMJAD HAIDER ABBAS XIAODONG YANG

IEEE Access , Volume 5, Pages 23958-23968

Impact Factor: 3.557 | **Quartile:** 1 | **Citations:** 14

DOI: 10.1109/ACCESS.2017.2766234

Algebraic analysis of Trivium and Trivium/128 2008

Mehreen Afzal Ashraf Masood

International Journal of Electronic Security and Digital Forensics, Volume:1, Issue:4, Page:344-352

Impact Factor: 0

DOI: 10.1504/IJESDF.2008.021452

Conference Proceedings

Robustness of Affine and Extended Affine Equivalent Surjective S-Box(es) against Differential Cryptanalysis 2022

Shah Fahd Mehreen Afzal Dawood Shah Mian Muhammad Waseem Iqbal Atiya Hai

15th International Symposium on Foundations & Practice of Security (FPS – 2022), res.country(38,)

Citations: N/A

DOI: Nil

Is Blockchain Overrated? 2021

Asif Raza Kazmi Mehreen Afzal Haider Abbas Shahzaib Tahir Abdul Rauf

2021 IEEE 19th International Conference on Embedded and Ubiquitous Computing (EUC), res.country(48,)

Citations: N/A

DOI: 10.1109/EUC53437.2021.00035

Smart Secure USB SSU-256 2021

Muhammad Ehsan ul Haq Zeeshan Ali Muhammad Taimoor Ali Ruqiya Fazal Waseem Iqbal Mehreen Afzal

ICGS3 2021 : 13th International Conference on Global Security, Safety & Sustainability, res.country(231,)

Citations: N/A

DOI: https://doi.org/10.1007/978-3-030-68534-8_9

An ICMetric based key generation scheme for controlled group communication 2014

Shahzaib Tahir Mehreen Afzal Muhammad Tahir

IISA 2014, The 5th International Conference on Information, Intelligence, Systems and Applications, res.country(88,)

Citations: N/A

DOI: 10.1109/IISA.2014.6878816

On the security of LBlock against the cube attack and side channel cube attack 2013

Saad Islam Mehreen Afzal Adnan Rashdi

3rd International Workshop on Security and Cognitive Informatics for Homeland Defense, res.country(57,)

Citations: N/A

DOI: 10.1007/978-3-642-40588-4_8

A Compact S-Box Design for SMS4 Block Cipher 2011

Imran Abbasi Mehreen Afzal

International Conference on Intelligent Robotics, Automations, Telecommunication Facilities, and Applications, IRoA, res.country(57,)

Citations: N/A

DOI: 10.1007/978-94-007-2598-0_69

Think before your LFSRs jump 2010

Mujahid Mohsin Mehreen Afzal Arif Wahla

2010 10th IEEE International Conference on Computer and Information Technology, res.country(231,)

Citations: N/A

DOI: 10.1109/CIT.2010.195

On generating algebraic equations for A5-type key stream generator 2008

Mehreen Afzal Ashraf Masood

Lecture Notes in Electrical Engineering, res.country(57,)

Citations: N/A

DOI: 10.1007/978-0-387-74935-8_31