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Qualification: B. Tech, M. Tech, Ph.D.



Ph.D. Thesis Title: SECURITY ISSUES IN 5G WIRELESS COMMUNICATION NETWORK

Date of Ph.D. thesis submission: 29 October 2021

Date of Ph.D. viva-voce: 21 June 2022

Current Working Status: Assistant Professor in the Department of Electronics and Communication Engineering, Central University of Jammu

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Field(s) of Specialization:

Network security techniques in wireless communication, artificial intelligence, attack modelling, intrusion detection systems, and security enhancement techniques, security in satellite communication

Areas of Interest:

Network security, wireless communication, artificial intelligence, machine learning, deep learning, intelligent algorithm synthesis

Brief Bio-data:

Misbah Shafi is currently working as an Assistant Professor in the Department of Electronics and Communication Engineering at Central University of Jammu. She worked as a Research Associate at SDCSS (ISRO), Central University of Jammu from August 2022 to July 2023. She was a Research Scholar in the Department of Electronics and Communication Engineering, Shri Mata Vaishno Devi University, Katra, Jammu and Kashmir, India. The thesis of the Ph.D. has been submitted on 29th of October 2021. She has published 06 Journal Papers including IEEE Transactions, IEEE Journal and Elsevier. She has carried out his research in the field of network security involving machine learning, adaptive algorithm synthesis mechanisms, security based intrusion detection and security enhancement techniques. She has completed her M.Tech and B.Tech in Electronics and Communication Engineering in 2018 and 2016. She has completed his 10th standard from New Public High School in 2009 and Class 12th from Hista Higher Secondary Anantnag in.2012.

Research Profile

Research Publications in Journal (SCD):

| S. No. | Title of the Paper | Author(s) | Year | Journal | Volume | PP. | Impact Factor |
|--------|--|---|------|--|--------------|--------------|---------------|
| 1 | A survey on security issues of 5G NR: Perspective of Artificial Dust and Artificial Rain | Misbah Shafi, Rakesh Kumar Jha, and Manish Sabraj | 2020 | Journal of Network and Computer Applications | Vol. 160 | 102597 | 8.7 |
| 2 | AR-Based Half-Duplex Attack in Beyond 5G Networks | Misbah Shafi and Rakesh Kumar Jha | 2020 | IEEE Systems Journal | Vol. 15 | 1693-1704 | 4.4 |
| 3 | Artificial Dust Based Attack Modelling: A Threat to the Security of Next Generation WCN | Misbah Shafi and Rakesh Kumar Jha | 2022 | IEEE Transactions on Network Science and Engineering | Vol. 9 | 4001-4016 | 6.6 |
| 4 | Behavioral Model For Live Detection of Apps Based Attack | Misbah Shafi, Rakesh Kumar Jha, Sanjeev Jain | 2022 | IEEE Transactions on Computational Social Systems | Vol. 10 | 934-946 | 5.0 |
| 5 | LGTBIDS: Layer-wise Graph Theory Based Intrusion Detection System in Beyond 5G Networks | Misbah Shafi and Rakesh Kumar Jha | 2022 | IEEE Transactions on Network Service and Management | Vol. 20 | 658-671 | 5.3 |
| 6 | Intelligent Trust Ranking Security Preserving Model for B5G/6G | Misbah Shafi, Rakesh Kumar Jha, Sanjeev Jain | 2023 | IEEE Transactions on Network Service and Management | Early access | Early access | 8.28 |

Conference Publications:

| S. No. | Title of the Paper | Author(s) | Year | Name of the conference |
|--------|--|---|------|--|
| 1 | Half-Duplex Attack: An Effectual Attack Modelling in D2D Communication | Misbah Shafi, and Rakesh Kumar Jha | 2020 | International Conference on COMMunication Systems & NETworks (COMSNETS)-IEEE |
| 2 | Security Issues in D2D Communication | Misbah Shafi, Rakesh Kumar Jha, and Manish Sabraj | 2020 | 6 th International Conference on Recent Trends and Advancements in Engineering and Technology |

Patents:

| S.No. | Patent | Applicant(s) | Year of application | Published |
|-------|--|--|---------------------|-----------|
| 1 | Smart Digital Pen | Rakesh Kumar Jha, Vinod Kumar, Haneet Kour, Sakshi Popli, Misbah Shafi , and Apurav Mahajan | 2020 | Yes |
| 2 | Half-Duplex Attack | Rakesh Kumar Jha, and Misbah Shafi , | 2022 | Filed |
| 3 | Artificial Intelligence based Trust Ranking Security Enhancement Scheme using RM Dataset | Rakesh Kumar Jha, Misbah Shafi , and Sanjeev Jain | 2023 | Filed |

Copyright(s):

| S.No. | Patent | Applicant(s) | Year of acceptance | Published |
|-------|------------|---------------------------------------|--------------------|-----------|
| 1 | RM Dataset | Rakesh Kumar Jha, Misbah Shafi | 2023 | Yes |

Award and Honors:

| S.No. | Name of the body | Year of award | Nature of the award |
|-------|------------------|---------------------------|---------------------|
| 1 | COMSNET | 2020 | Travel grant |
| 2 | TEQIP | 2018 (August)-2021(March) | Assistantship |

Certifications:

| S.No. | Title of the course | Performance | Year | Organization |
|-------|---------------------------------------|-------------|------|--------------|
| 1 | Evolution of air interface towards 5G | Gold | 2019 | NPTEL |
| 2 | Introduction to internet of things | Elite | 2019 | NPTEL |

Conferences/Workshops/Seminars organized

- Member, Organizing Committee, “Proceedings of the 5th International Conference on Recent Trends Advancement in Engineering and Technology (ICRTAET),” organized by Shri Mata Vaishno Devi University, Katra, J&K, from 25th -26th October 2018.

- Member, Organizing Committee, “Proceedings of the 6th International Conference on Recent Trends & Advancement in Engineering and Technology (ICRTAET),” organized by Shri Mata Vaishno Devi University, Katra, J&K, from 17th -18th January 2018.
- Organizing Member, MHRD sponsored one day national training programme on “ICT enabled Hybrid Learning (MOOCs)” held at SMVDU on 19th January 2019.

Conferences/Workshops/Seminars attended

- Two day workshop on “Dell EMC-Nvidia training on Artificial Intelligence/Deep Learning,” organized by Aman Technologies at SMVDU, Katra, J&K, 25th -26th July 2019.
- One day hands on session on unity and cohesion in Academic Writing, during Research Day, organized by School of Language and Literature, Faculty of Humanities and Science at SMVDU, on 25th September 2019.
- 54 hours Techstars Startup Weekend Event, including the learning of ideas to product, business model canvas and validation, organized by SMVDU-TBIC on 20th -22nd September, 2019.
- Two day workshop on “Ethical Hacking and Cyber Security,” organized School of Computer Science and Engineering, SMVDU, Katra, J&K, 26th September, 2019.