

MUHAMMAD RIZWAN

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📍 93-Jail Road Lahore, 54000, Pakistan

PARTICULARS

EDUCATION

Huazhong University of Science & Technology Wuhan, China
Ph.D. in Information and Communication Engineering June, 2017
Research Area: Communication and Information Systems
Advisor: Prof. Hongbo Jiang

COMSATS University Islamabad, Pakistan
MS in Computer Science November, 2011
Research Area: Wireless and Mobile Computing Networks

Punjab University College of Information Technology Lahore, Pakistan
M.Sc. in Computer Science March, 2006

RESEARCH INTERESTS

Cybersecurity, Information Security, Artificial Intelligence, Explainable AI, Digital Forensics, Machine Learning, Deep Learning, Federated Learning, Medical Image Processing, Cloud Computing, Smart Environment, Mathematical Modelling, Fuzzy Systems, IoTs, SDN/NFV, & WSN.

TEACHING EXPERIENCE

- **Assistant Professor**, Dec. 2017 - Present.
Department of Computer Science, Kinnaird College for Women (Chartered University), Lahore, Pakistan.
Teaching Level: BS(CS), MS(CS)
Major Responsibilities:
 - Higher Education Commission approved supervisor for MS & PhD candidates
 - Involved in curriculum development. Introduced courses including Advance Self-Organized Networks (postgraduate), Advanced Computer Architecture (postgraduate), and Computer Organization and Assembly Language & Computer Architecture (undergraduate)
 - Involved in grant writing and collaborative research activities
 - Led problem-solving sessions or discussions of primary literature, concepts etc. in the field of cybersecurity, wireless & mobile communication and fuzzy systems**Major Courses:** Advanced Computer Networks, Networks Standards and Protocol, Wireless and Mobile Computing Networks, Advanced Self-Organized Networks, Advanced Topics Wireless Sensor Networks, Advanced Computer Architecture, Computer Networks, Mobile & Wireless Communication, Computer Architecture, Computer Organization and Assembly Language.
- **Assistant Professor**, Sep. 2017 - Nov 2017.
Department of Computer Science, University of South Asia, Tufail Road, Lahore, Pakistan.
Teaching Level: BS(CS), MS(CS)
- **Lab Manager/Instructor**, Oct 2006 - July 2012. Department of Computer Information Technology, GCT, TEVTA, Govt. of Punjab, Lahore, Pakistan
- **Computer Instructor**, Oct. 2000 - July 2002. RPS, 12 Wing Sotlej, Kasur, Pakistan.

RESEARCH EXPERIENCE

- **Principal Investigator**, Dec. 2017 - Present.
Cyber Security and Network Applications Research Group, Kinnaird College for Women, Lahore, Pakistan.
- **Principal Investigator**, Dec. 2017 - Present.
Artificial Intelligence and Machine Learning Research Group, Kinnaird College for Women, Lahore, Pakistan.
- **Research Associate**, Sep. 2014 - June 2017.
Networked and Communication Systems Research Group (NEST), Huazhong University of Science and Technology, China.
- **Research Associate**, Sep. 2008 - Oct. 2011.
Wireless and Mobile Computing Networks Research Group, COMSATS University, Islamabad, Pakistan.

ACADEMIC HONORS

- **PhD Fellowship Award:**
Chinese Govt. PhD Fellowship, Huazhong University of Science and Technology, China, 2014-2017.
- **Travel Grant Award:**
Awarded Research grant to visit International Conference in Beijing, by Huazhong University of Science and Technology, China, 2016.
- **HEC Approved PhD Supervisor:**
Awarded HEC Approved PhD Supervisor, by Higher Education Commission, Pakistan, 2018.

PUBLICATIONS

JOURNAL PAPERS

1. Aysha S., Maryam S., AR Javed, **Muhammad Rizwan**, Celestine I., Chinmay C., “Exploratory Data Analysis, Classification, Comparative Analysis, Case Severity Detection, and Internet of Things in COVID-19 Telemonitoring for Smart Hospitals.” to appear in *Journal of Experimental & Theoretical Artificial Intelligence*, 2021, {IF: 2.340} (Accepted).
2. Maryam S., Aysha S., AR Javed, Chinmay C., **Muhammad Rizwan**, “Suspicious Transaction Detection in Banking Cyber-Physical Systems.” to appear in *Computers & Electrical Journal*, 2021, {IF: 2.663} (Accepted).
3. Faiqa S., Asma B., AR Javed, Jamel N., Chinmay C., Adil A., **Muhammad Rizwan**, “An Efficient Deep Learning Framework for Distracted Driver Detection”. to appear in *CMC-Computers, Materials & Continua*, 2021, {IF: 4.89} (Accepted).
4. Aqsa Mohiyuddin, AR Javed, **Muhammad Rizwan**, Chinmay C., Maryam S., ”Secure Cloud Storage for Medical IoT Data using Adaptive Neuro-Fuzzy Inference System.” *International Journal of Fuzzy Systems*, DOI: 10.1007/s40815-021-01104-y, 2021, {IF: 4.406}
5. Afia N., AR Javed, **Muhammad Rizwan**, Sidra A., Jerry L., TR Gadekallu, “DARE-SEP: A Hybrid Approach of Distance Aware Residual Energy-Efficient SEP for WSN”. *IEEE Transactions on Green Communications & Networking*, Vol.5, No.1, pp. 1-15, 2021, DOI: 10.1109/TGCN.2021.3067885 {IF: 5.496}.
6. Maryam S., Aysha S., Celestine I., AR Javed, **Muhammad Rizwan**, Jerry Lin, Norbert H., “Enhancing the security of Health Information using Modular Encryption Standard in Mobile Cloud Computing”. *IEEE Access*, Vol.9, No.1, pp. 8820-8834, 2021, 10.1109/ACCESS.2021.3049564 {IF: 3.745}.
7. Aimen S., AR Javed, Fahed G., Jamel N., **Muhammad Rizwan**, “A Secure Routing in Software Defined Network”. to appear in *Mathematical Biosciences and Engineering*, 2021, {IF: 1.285} (Accepted).
8. Amna M., Kalsoom A., AR Javed, **Muhammad Rizwan**, Gautam S., TR Gadekallu, Dong W., Maryam S., ”Storage and Proximity Management for Centralized Personal Record using IPFS-based Optimization Algorithm” to appear in , *Journal of Circuits, Systems & Computers*, 2021, {IF: 1.363} (Accepted).
9. Mavra M., Talha J., Jamel N., Sidra A., Giridhar RB., **Muhammad Rizwan**, “A Hybrid Approach for Network Intrusion Detection”. to appear in *CMC-Computers, Materials & Continua*, 2021, {IF: 4.89} (Accepted).
10. Mavra M., Fahad A., Madallah A., Mamoona H., **Muhammad Rizwan**, “Machine Learning Enabled Early Detection of Breast Cancer by Structural Analysis of Mammograms”. *CMC-Computers, Materials & Continua*, Vol.67, No.1, pp. 641-657, 2021, DOI:10.32604/cmc.2021.013774 {IF: 4.89}.

11. Shumaila S., Fahad A., Asma B., Madallah A., Saad A., Mamoona H., **Muhammad Rizwan**, and Shahid N., "Machine Learning Empowered Security Management and Quality of Service Provision in SDN-NFV Environment". *CMC-Computers, Materials & Continua*, Vol.66, No.3, pp. 2723-2749, 2021, DOI:10.32604/cmc.2021.014594 {IF: 4.89}.
12. AR Javed, Rabia A., Bakhtwar, Ammara K., Zubair K., Omar HA., **Muhammad Rizwan**, "Green5G: Utilization of Green Computing based on 5G Technology in Device-to-Device Communication to Enhance Capacity and Coverage" , *CMC-Computers, Materials & Continua*, Vol.67, No.2, pp. 1933-1950, 2021, DOI: 10.32604/cmc.2021.015272 {IF: 4.89}.
13. Bakhtwar A., AR Javed, Chinmay C., Jamel N., Saira R., **Muhammad Rizwan**, "Blockchain and ANFIS empowered IoMT Application for Privacy Preserved Contact Tracing in COVID-19 Pandemic". to appear in , *Personal and Ubiquitous Computing*, 2021, {IF: 2.212} (Accepted).
14. Celestine I., Rabia A., AR Javed, **Muhammad Rizwan**, "An Optimized Homomorphic CRT-RSA Algorithm for security and Efficient Communication". to appear in , *Personal and Ubiquitous Computing*, 2021, {IF: 2.212} (Accepted).
15. RZ Ahmad, AR Javed, **Muhammad Rizwan**, "Interference Mitigation in D2D Communication Underlying Cellular Networks: Towards Green Energy". , *CMC-Computers, Materials & Continua*, Vol.68, No.1, 2021, pp.45-58, 2021, DOI:10.32604/cmc.2021.016082 {IF: 4.89}.
16. Amber A., Kainat M., AR Javed, **Muhammad Rizwan**, TR Gadekallu, MH Abidi, M., Alkahtani, "Classification and Categorization of COVID-19 in Pakistan using Bayesian Regularized ANN." , *CMC-Computers, Materials & Continua*, Vol.69, No.1, 2021, pp.1253-1269, 2021, DOI:10.32604/cmc.2021.015655 {IF: 4.89}.
17. Celestine I., Kainat M., Zarnab K., AR Javed, **Muhammad Rizwan**, Uttam Ghosh, "Classification of COVID-19 individuals using Adaptive Neuro-Fuzzy Inference System" , *Multimedia System* , 2021, DOI: <https://doi.org/10.1007/s00530-021-00774-w> {IF: 1.734}.
18. Shumaila S., Bushra K., **Muhammad Rizwan**, Fahad A., "Security of Cloud Computing Using Adaptive Neural Fuzzy Inference System". *Security and Communication Networks*, Feb. 2020, Volume 2020, Article ID 5352108, pp. 1-15. {IF: 1.288}.
19. Aysha S., Maryam S., **Muhammad Rizwan**, Fahad A., "Ensuring the Confidentiality of Nuclear Information at Cloud Using Modular Encryption Standard". *Security and Communication Networks*, Dec. 2019, Volume 2019, Article ID 2509898, pp. 1-16. {IF: 1.288}.
20. Areeba Rehman, Nageen Saleem, Aysha Shabbir, Maryam Shabbir, **Muhammad Rizwan**, Shahid Naseem, Fahad Ahmad "ANFIS based hybrid approach identifying correlation between decision making and online social". *EAI Endorsed Transactions on Scalable Information Systems*, July. 2020, sis 18(e14). DOI: 10.4108/eai.13-7-2018.165669, pp. 1-11. (ESCI)
21. Nageen Saleem, Areeba Rehman, **Muhammad Rizwan**, Shahid Naseem, Fahad Ahmad "Enhancing Security of Android Operating System Based Phones using Quantum Key Distribution". *EAI Endorsed Transactions on Scalable Information Systems*, June. 2020, sis 18(e10). DOI: 10.4108/eai.13-7-2018.165281, pp. 1-8. (ESCI)
22. Ruhma Khawaja, Syeda Alina Hassan, Zara Shahid, Mawara Maqbool, **Muhammad Rizwan**, Fahad Ahmad "Green Wireless Communication and Green Internet of Things: An Overview." *Journal of Natural and Applied Sciences Pakistan*, 2020, vol. 2, no. 1, pp. 390-407.
23. Binish Naz, **Muhammad Rizwan**, Fahad Ahmad, Aysha Shabbir "Cofiguration-Free Systems for Wi-Fi Sensing based Smart Home using the Smart Remote Controller." *LGU Research Journal of Computer Science and IT*, 2021, vol. 5, no. 1, pp. 79-86.
24. Aqsa Aziz, Anum Amir, Omaira Ali, **Muhammad Rizwan**, Fahad Ahmad "Using Blockchain Technology to Boost Cyber Security." *Journal of Natural and Applied Sciences Pakistan*, 2020, vol. 2, no. 1, pp. 370-379.
25. Nageen Saleem, **Muhammad Rizwan**, Fahad Ahmad "Using Fog Computing for Security and Storage Challenges in IoT." *Journal of Natural and Applied Sciences Pakistan*, 2020, vol. 2, no. 1, pp. 185-191.
26. Nimra Dilawar, Sara Nadeem, Sania Arooj, **Muhammad Rizwan**, Fahad Ahmad "Simulation and Security Calibration of Weather Management System for the Least Rainy Areas of Pakistan through Quantum Key Distribution." *EAI Endorsed Transactions on Scalable Information Systems*, Aug. 2019, sis 19(23). DOI: 10.4108/eai.13-7-2018.159794, pp. 1-8.(ESCI)
27. Farwa Iqbal, Maham Iqbal, Fatima Mohsin, **Muhammad Rizwan**, Fahad Ahmad "Security Issues in Software Defined Networking (SDN): Risks, Challenges and Potential Solutions." *International Journal of Advanced Computer Science and Applications (IJACSA)*, 2019, vol. 10, no. 10, pp. 298-303. (ESCI)

28. Aysha Shabbir, Maryam Shabbir, **Muhammad Rizwan**, Fahad Ahmad “Neuro-Biological Emotionally Intelligent Model for Human Inspired Empathetic Agents.” *The Journal of Cognitive Systems*, 2019, vol. 4, no. 1, pp. 1-11. (ESCI)
29. Zarnab Khalid, **Muhammad Rizwan**, Aysha Shabbir, Maryam Shabbir, Fahad Ahmad, Jaweria Manzoor “Cloud Server Security using Bio-cryptography.” *International Journal of Advanced Computer Science and Applications (IJACSA)*, 2019, vol. 10, no. 3, pp. 166-172. (ESCI)
30. Rabia Abid, Nageen Saleem, Hafiza Ammaraa Khalid, Fahad Ahmad, **Muhammad Rizwan**, Jaweria Manzoor, Kashaf Junaid, “Stress Detection of the Employees Working in Software Houses using Fuzzy Inference.” *International Journal of Advanced Computer Science and Applications (IJACSA)*, 2019, vol. 10, no. 1, pp. 217-224. (ESCI)
31. Aysha S., Maryam S., **Muhammad Rizwan**, Fahad A., “A New Approach: Cognitive Multi-Level Authentication (CMLA) in Nuclear Command and Control”. *Cryptography and Security*, 2019, arXiv preprint arXiv:1911.04536.
32. Areeba Rehman, **Muhammad Rizwan**, Fahad Ahmad “Cloud Storage Security Using Blockchain Technology.” *LGU Research Journal of Computer Science and IT*, 2019, vol. 3, no. 4, pp. 23-29.
33. Sara Nadeem, **Muhammad Rizwan**, Fahad Ahmad, Jaweria Manzoor, “Securing Cognitive Radio Vehicular Ad-Hoc Network with Fog Node Based Distributed Blockchain Cloud Architecture.” *International Journal of Advanced Computer Science and Applications (IJACSA)*, 2019, vol. 10, no. 1, pp. 288-295. (ESCI)
34. Fahmida Naveed, **Muhammad Rizwan**, Aysha Shabbir, Maryam Shabbir, Fahad Ahmad “Cloud Computing Serving as a Solution to the IoT Generated Data.” *Bahria University Journal of Information & Communication Technologies (BUJICT)*, 2019, vol. 11, no. 2, pp. 1-6.
35. Neha Khalid, Mishaal Sikander, Soha Bint Zarar Khan **Muhammad Rizwan**, Fahad Ahmad “Security Issues of Big Data Analytics.” *Journal of Natural and Applied Sciences Pakistan*, 2019, vol. 2, no. 1, pp. 148-153.
36. Iqra Mazhar, Humna Shabir, Maham Zafar, Fatima Zunash Ahmad, **Muhammad Rizwan**, Aysha Shabbir, Maryam Shabbir, Fahad Ahmad “Security Issues in Cloud Computing and Their Solution.” *Journal of Natural and Applied Sciences Pakistan*, 2019, vol. 2, no. 1, pp. 185-191.
37. Nimra Dilawar, **Muhammad Rizwan**, Fahad Ahmad, Saima Akram, “Blockchain: Securing Internet of Medical Things (IoMT).” *International Journal of Advanced Computer Science and Applications (IJACSA)*, 2019, vol. 10, no. 1, pp. 82-89.
38. Areeba Rahman, Bakhtawar, Nageen Saleem, Fahad Ahmad, **Muhammad Rizwan**, “Energy Optimization in Wireless Rechargeable Sensor Networks.” *International Journal of Scientific and Research Publications*, 2019, vol. 9, no. 4, pp. 477-483.
39. Farza Baber, **Muhammad Rizwan**, “Traffic Management Through VANET.” *International Journal of Scientific and Research Publications*, 2019, vol. 9, no. 2, pp. 355-361.
40. Bakhtawar, **Muhammad Rizwan**, Fahad Ahmad “Energy Harvesting using LEACH and SEP Protocols in Heterogeneous Wireless Sensor Networks.” *International Journal of Scientific and Research Publications*, 2019, vol. 9, no. 3, pp. 1-7.
41. Ayesha Maqsood, **Muhammad Rizwan**, Fahad Ahmad “Security, Privacy and Trust in Cyber (STPC Cyber).” *International Journal of Scientific and Research Publications*, 2019, vol. 9, no. 2, pp. 649-655.
42. Tayyabah Hassan, Wajiha Ajmal Khan, **Muhammad Rizwan**, Fahad Ahmad, Usman Sattar “5G Radio Access Networks Based on Fog Computing: An Overview.” *Journal of Natural and Applied Sciences Pakistan*, 2019, vol. 1, no. 1, pp. 46-51.
43. Nimra Dilawar, Sara Nadeem, Fahad Ahmad, **Muhammad Rizwan**, Kashaf Junaid “A Virtual Reality Based Clinical Mobile Assistant in Remote Areas of Pakistan.” *Journal of Natural and Applied Sciences Pakistan*, 2019, vol. 1, no. 1, pp. 67-79.
44. Shumaila Shahzadi, **Muhammad Rizwan**, Fahad Ahmad “Green Communication in Wireless Networks and IoT.” *Journal of Natural and Applied Sciences Pakistan*, 2019, vol. 1, no. 1, pp. 108-118.
45. **Muhammad Rizwan**, Muhammad S. Nisar, Hongbo Jiang “FMEEP: Fuzzy Based Multi-hop Energy Efficient Routing Protocol for HWSN.” , *International Journal of Computers and Technology*, 2016, vol. 15, no. 14, pp. 7406-7415. (EI)

CONFERENCE PAPERS

1. Arfa A., Rabia A., AR Javed, **Muhammad Rizwan**, “Mobile Cloud Computing for Secure Data.” *IEEE 44th International Conference on Telecommunications and Signal Processing (TSP – IEEE Conference) July 26-28, 2021 // Virtual / Brno, Czech Republic The age of A.I.* July 2021.
2. SB Sayyed, Aqsa R., Talha J., Singh A., Kepel D., Maurizio M., **Muhammad Rizwan**, “Performance Analysis of Cloud Computing for Distributed Data Center using Cloud-Sim.” *IEEE International Conference on Communication (IEEE ICC) 14-23 June 2021 // Virtual / Montreal Connectivity – Security – Privacy* June 2021.
3. Saira Raqib, **Muhammad Rizwan**, “NFC Payment Security with Cloud Based Authentication System.” *Proceedings of the 2nd International Conference on Intelligent Technologies and Application (INTAP 2019) CCIS-Springer, Bahawalpur, Pakistan, Nov. 2019, pp. 118-128.*
4. Saira Raqib, **Muhammad Rizwan**, “Edge Caching Framework in Fog Based Radio Access Networks through AI in Quantum Regime.” *Proceedings of the 2nd International Conference on Intelligent Technologies and Application (INTAP 2019) CCIS-Springer, Bahawalpur, Pakistan, Nov. 2019, pp. 2100-2120.*
5. Bakhtawar Aslam, Rabia Abid, **Muhammad Rizwan**, Fahad Ahmad, Usman Sattar “Block-Chain- Security Advancement in Medical Sector for sharing Medical Records.” *Proceedings of the 1st International IEEE Conference on Innovative Computing, Communication and Computer Engineering, UMT, Lahore, Nov. 2019, pp. 108-118.*
6. **Muhammad Rizwan**, Aysha Shabbir, Maryam Shabbir, Fahad Ahmad, Usman Sattar “Clustering based Hybrid Mobility in WPAN.” *Proceedings of the 1st International IEEE Conference on Innovative Computing, Communication and Computer Engineering, UMT, Lahore, Nov. 2019, pp. 127-134.*
7. Bakhtawar Aslam, Rabia Abid, **Muhammad Rizwan**, Fahad Ahmad, Usman Sattar “Heterogeneity Model for Wireless Mobile Cloud Computing & its Future Challenges.” *Proceedings of the 1st International IEEE Conference on Innovative Computing, Communication and Computer Engineering, UMT, Lahore, Nov. 2019, pp. 150-157.*
8. Saira Raqib, **Muhammad Rizwan**, “NFC Payment Security with Cloud Based Authentication System.” *Proceedings of the 2nd International Springer Conference on Conference on Intelligent Technologies and Application (INTAP 2019), IUB, Bahawalpur, Nov. 2019, pp. 760-775.*
9. Tayyabah Hassan, Fahad Ahmad, **Muhammad Rizwan**, Rabia Rehman “Edge Caching Framework in Fog Based Radio Access Networks through AI in Quantum Regime.” *Proceedings of the 2nd International Springer Conference on Conference on Intelligent Technologies and Application (INTAP 2019), IUB, Bahawalpur, Nov. 2019, pp. 870-886.*
10. Aysha Shabbir, Maryam Shabbir, **Muhammad Rizwan**, “Energy Efficient V-Formation Clumping in WSN.” *Proceedings of the 1st International Conference on Science, Technology and Innovation, KCW, Lahore, April. 2019, pp. 10-22.*
11. Kainat Mehboob, **Muhammad Rizwan**, Fahad Ahmad “Controlling Congestion of Data Traffic Path in IoT Based Software Defined Networks.” *Proceedings of the 1st International Conference on Computer Science and Allied Technologies, ICCSAT, LGU, Lahore, Dec. 2018, pp. 30-40.*
12. **Muhammad Rizwan**, Muhammad S. Nisar, Hongbo Jiang “MREEP: Multihop Residual Energy based Energy Efficient Routing Protocol for HWSN.” *Proceedings of the 6th International Conference on on Machinery, Materials, Environment, Biotechnology and Computer, MMEBC, Beijing, China, July 2016, pp. 55-60.*
13. **Muhammad Rizwan**, Muhammad S. Nisar, Hongbo Jiang “TMEEP: Threshold-sensitive based Multihop Energy Efficient Protocol for HWSN.” *Proceedings of the 6th International Conference on on Machinery, Materials, Environment, Biotechnology and Computer, MMEBC, Beijing, China, July 2016, pp. 55-60.*
14. **Muhammad Rizwan**, Muhammad S. Nisar, Hongbo Jiang “ZEPP: Zonal based Energy Efficient Routing Protocol for HWSN.” *Proceedings of the 6th International Conference on on Machinery, Materials, Environment, Biotechnology and Computer, MMEBC, Beijing, China, July 2016, pp. 55-60.*

PAPERS UNDER REVIEW

1. Mavra Mehmood, **Muhammad Rizwan**, Abdul Rehman Javed, “DI-Cerv: A Hybrid Approach to detect cervical cancer using Random Forest and Shallow Neural Network.” *Multimdeia Tools and Applications.*, 2021
2. Rabia Abid, Bakhtwar, Ammara Khalid **Muhammad Rizwan**, Abdul Rehman Javed, “Implementation of RFID Tags on Borders for Image Detection and Classification using 5G Technology.” *Springer, Wireless Personal Communications.* 2021.

TECHNICAL SKILLS

Languages: C++, Java, Python, HTML and TCL

Simulators: Matlab, OPNET, NS-2, NS-3, OMNET++, Netsm, J-Sim and QualNet

PROFESSIONAL CERTIFICATION

CCNA (Cisco Certified Network Associate) 30-OCT-2007 CISCO ID CSC011320860

PROFESSIONAL TRAINING

- Participated in Technical Teachers Training Course on Computer Networking. The course was organized by National Vocational & Technical Education Commission (NAVTEC) under Prime Minister's Hunarmand Pakistan Programme in collaboration with National Institute of Science and Technical Education(NISTE) from 01/03/2010 to 27/03/2010.
- Participated in Pre-Service Training Course on development of teaching skills. The course was organized by Faculty Development Academy, Comsats Headquarters Islamabad. The duration of course is 6th July 2012 to 19th August 2012.

PROFESSIONAL ACTIVITIES

- Member of Institute of Electrical and Electronics Engineer.
- Reviewer of International Journal of Advanced Computer Science and Applications (IJACSA).
- Reviewer of International Journal of Computer Science and Technology Reviewer of EAI Journal.
- Reviewer of IEEE 44th International Conference on Telecommunications and Signal Processing (TSP-IEEE Conference) July 26-28, 2021 // Virtual / Brno, Czech Republic The age of A.I. July 2021.
- Technical Program Committee Member, ICST-KCFW, Lahore, Pakistan, 2019.
- Technical Program Committee Member, ICCSAT, LGU, Lahore, Pakistan, 2018.

SERVICES

Member: Purchase Committee, Procurement Cell, KCW, Lahore (2021 to date)

Member: Admission Committee, CS Department, KCW, Lahore (2019 to date)

Member: Departmental Search Committee, KCW, Lahore (2017 to date)

Member: Board of Studies, CS Department, KCW, Lahore (2017 to date)

Member: Undergraduate Project Evaluation Committee at KCW, Lahore (2017 to date)

Member: MS Thesis Evaluation Committee at KCW, Lahore (2017 to date)

GRADUATE STUDENTS MENTORED

- **Amber Nadeem**, (2019, April) A research on development in parallel algorithms for longest common sub-sequence and its extended versions: An Exploratory, KCFW.
- **Aneela Mehmood**, (2018, April) Business Process Model Abstraction: Using Supervised Learning Approaches to Rank Process Model Activities, KCFW.
- **Tayyba Hassan**, (2020, March) Edge Caching in Fog Based Radio Access Networks Through Deep Learning Associated Quantum Computing Framework, KCFW.
- **Shumaila Shahzadi**, (2020, December) Security management and monitoring specification of network services in the orchestration of SDN and NFV environment using Machine Learning Techniques.
- **Mavra Mehmood**, (2020, December) Machine Learning Enabled Early Detection of Breast Cancer by Structural Analysis of Mammograms.
- **Afia Naeem**, (2021, Jan.) Artificial Intelligence based routing in HWSNs.

UNDERGRADUATE STUDENTS MENTORED

- Hira Kiran, Fatima Manzoor, Sania Tariq (2019, April) VTRACK: Vehicle Automation System, KCFW.
- Jaweria Iqbal, Eman Khan, Aysha Khurisd, (2020, March) B-Aid: Blind Aid Software, KCFW.
- Kalsoom Asghar, Amina Mubshar, (2020, December) Lock-intelligent: Home Security, KCFW.

REFERENCES

will be available on request