

Dr. Muhammad Asif Raza

ASSISTANT PROFESSOR

Contact

(+92) 300-5978314 

asif79@bzu.edu.pk 

CS, BZU, Multan,
Pakistan 

Education

(Feb. 2018)

**Ph. D in Computer Science
and Electrical Engineering,**
*Gwangju Institute of Science
and Technology, South
Korea*

(Aug. 2006)

**Master of Science
(Information Technology),**
*National University of
Science & Technology
(NUST), Pakistan*

Key Skills

Networking



Machine Learning



Programming Languages



Network Security



Internet of Things



Profile

An assistant professor with 10+ years of expertise in computer science. I specialize in cutting-edge areas like networking, machine learning, deep learning, natural language processing, and network security. My Ph.D. in computer science drives me to nurture next generation with frontiers of knowledge.

Professional Experience

ASSISTANT PROFESSOR

BZU – Multan, Pakistan

March 2018

– Present

- Taught courses covering subjects such as Artificial Intelligence, Machine Learning, Deep Learning, Networking, Programming, and Information Security among others.
- Supervised research thesis of graduate students on multiple topics including machine learning applied to healthcare and finance, IoT and network security.
- Advising undergraduate students on their final year projects on various topics including desktop and web application development using visual programming and web engineering technologies.
- As the course coordinator for the BS(CS) program over the past three years, I've been responsible for planning courses and executing admission policies.
- I spearheaded the design, development of the curriculum for the MS(DS) program, ensuring it aligned with current industry trends and academic standards.

Senior Research Associate

KICS– UET, Lahore, Pakistan

March 2007

– April 2011

- Conducting research on wireless sensor networks and optical networks
- Develop sensor network lab facility at KICS – UET after getting sensor motes from Crossbow, In. USA.
- Develop Optical Communication System course contents and assist lectures on the course at UET, Lahore
- Collaborating with team from NUST, Pakistan working on sensor motes for developing testbed to conduct real world sensor network experiments.

Accomplishments and Awards

- **Scholarship for MS studies** **Nov. 2004**
(NUST – Pakistan) **– Jul. 2006**
- **Scholarship for Ph. D studies** **Sep. 2011**
(GIST – South Korea) **– Feb. 2018**
- **Project funding for establishing
Sensor Network lab facility at KICS** **Mar. 2008**
– **UET, Lahore**
(Higher Education Commission,
Pakistan)
- **Established Machines and
Algorithms Journal** **March 2022**
(Artificial Intelligence, Machine
Learning, Deep Learning, IoT and
related technologies.)

Research Thesis

- Adaptive Spectrum Sharing in TV
Whitespace** **Sep. 2011**
GIST – South Korea **– Dec. 2017**

TV whitespace refers to TV spectrum not in use by licensed operator in a spatio-temporal region. The coexistence among secondary networks operating in the same band in TVWS was not dealt by regulatory bodies. In this thesis, we have proposed a coexistence decision making (CDM) system that ensures peaceful coexistence among unlicensed networks operating in different network technologies in TVWS. In this work, we consider channel allocation problem under the constraint of optimizing multiple system performance metrics like system throughput, fairness in allocation, QoS provisioning and spectral efficiency. The proposed CDM system improves the TVWS utility by promoting a novel frequency reuse method by exploiting the inter-network interference information. The experimental results show the superiority of the proposed system over existing CDM systems defined in the TVWS sharing domain.

Publications

Journal

1. Ahmad Abdullah, Asif Raza, Qaisar Rasool, Umair Rashid, Muhammad Minam Aziz, & Saad Rasool. (2024). A Literature Analysis for the Prediction of Chronic Kidney Diseases. Journal of Computing & Biomedical Informatics, Vol 7, No. 02, September 01, 2024.
2. Asghar, Muhammad Nabeel; Raza, Muhammad Asif; Murad, Zara; and Alyahya, Ahmed, "Detecting Malicious Botnets in IoT Networks Using Machine Learning Techniques," IPSI Transaction on Internet Research, Volume: 20, Number 2, Pp. 24-35, July, 2024.
3. Omair Bilal, Asif Raza, Saif ur Rehman Khan, and Ghazanfar Ali. A Contemporary Secure Microservices Discovery Architecture with Service Tags for Smart City Infrastructures . VFAST Transactions on Software Engineering, Vol. 12 Number 1, Pp. 79–92, March 2024.

4. Muhammad Wajid, Muhammad Kamran Abid, Asif Raza, Muhammad Haroon, Abdul Qadeer Mudasar, "Flood Prediction System Using IOT & Artificial Neural Network," VFAST Transactions on Software Engineering, Vol. 12, Number 1, Pp. 210–224, March 2024.
5. Saif-Ur-Rehman Khan, Asif Raza, Muhammad Tanveer Meeran, Umair Bilhaj, "Enhancing Breast Cancer Detection through Thermal Imaging and Customized 2D CNN Classifiers," VFAST Transactions on Software Engineering, Vol.11, Number 4, Pp. 80-92, November 2023.
6. Adil, Atif Raza Zaidi, Rabia Javeed, Muhammad Asif Raza, Muhammad Imran, "Performance Evaluation of Gigabit Passive Optical Networks (GPON) in Various Network Technologies: A Comparative Analysis," Journal of Computing & Biomedical Informatics, Vol. 5 No. 02 (2023).
7. Muhammad Imran, Rabia Javeed, Muhammad Asif Raza, Perveen Akhtar, "Comparative Studies of Coronary Artery Disease: Insights into Risk Factors, Diagnostic Approaches, and Treatment Strategies," Journal of Computing & Biomedical Informatics, Vol. 5 No. 01 (2023).
8. Muhammad Usman, Muhammad Asif Raza, Muhammad Imran, Rabia Javed, "N-Dimensional X-Ray Image for Lungs Abnormalities Detection Using Deep Learning Technique", Journal of Computing & Biomedical Informatics, Vol. 5 No. 01 (2023), 05-06-2023.
9. Muhammad A. Ajmal, Muhammad Imran, Muhammad Asif Raza, Ali Raza, "Cyber Threats Prediction Model using Advanced Data Science Approaches", Journal of Computing & Biomedical Informatics, Vol. 3 No. 02 (2022), 27-09-2022.
10. M. Asif Raza, Zafar Iqbal, Sang-Seon Byun, Hyunduk Kang, and Heung-No Lee, "A Versatile Coexistence Decision-Making System for Efficient TV Whitespace Sharing among Whitespace objects," Wireless Communications and Mobile Computing, Hindawi, Vol. 2017, Article ID 8498217, Oct. 2017.
11. M. Asif Raza, S. Park, and H.-N. Lee, "Evolutionary Channel Sharing Algorithm for Heterogeneous Unlicensed Networks," IEEE Transactions on Wireless Communications, vol. 16, issue 7, pp. 4378-4389, Jul. 2017.
12. Muhammad A. Raza, W. Mahmood and A. Ali, "Hybrid Control and Reservation Architecture for Multi-Domain Burst Switched Network", IEEE / OSA Journal of Lightwave Technology, Vol. 26, No. 14, pp. 2013-2028, July 15, 2008.
13. M. A. Raza, W. Mahmood and A. Ali, "Hybrid Control Architecture for Optical Burst Switching Networks", WSEAS Journal on Communications, Issue 8, Vol. 5, pp. 1542-1549, Aug. 2006

Conference

1. Hyunjun Han, Jusung Kang, Muhammad Asif Raza and Heung-No Lee, "Learning Through Adverse Event for Collision Avoidance: A Self-Learning Approach", 2018 Tenth International Conference on Ubiquitous and Future Networks (ICUFN), Prague, Czech Republic, July 2018.
2. Muhammad A. Raza, Zafar Iqbal, Seungchan Lee, Haeung Choi, and Heung-No Lee, "Issues and Resolution Efforts Pertaining to TV Whitespace Usage", Korea Information and Communications Society Global Conference 2014 (한국통신학회, 2014년도 동계종합학술발표회), pp.77-79, Jan 22-24, 2014.
3. Sameer Farooq, Ali Hammad Akbar, Asif Raza, Abdul Waheed and Ki-Hyung Kim, "Application-oriented Re-Clustering and Cluster Head Re-Election Scheme for Wireless Sensor Networks", accepted for publication in the 7th international wireless communications and mobile computing conference 2011.
4. M. A. Raza, A. Ali and W. Mahmood, "Optimal Cluster Head Election for Efficient

Resource Discovery Mechanism in Wireless Sensor Networks”, the 34th IEEE Conference on Local Computer Networks (LCN), Switzerland, October 21-23, 2009.

5. M. A. Raza, W. Mahmood and A. Ali, “Dynamic Resource Management in Hybrid Architecture for OBS Control Plane”, International Conference on Electrical Engineering (IEEE Lahore Chapter) UET, Lahore, April 11-12, 2007.
6. M. A. Raza, W. Mahmood and A. Ali, “Just-Enough-Time Domain Level Signaling (JET-DS) For Optical Burst Switching Networks”, 4th IASTED Intl. Conference on Communications, Internet, and Information Technology (CIIT 2006) St. Thomas, USVI, USA Nov. 29-Dec. 1, 2006.
7. M. A. Raza, W. Mahmood and A. Ali, “A New Control Architecture for Optical Burst Switching Networks”, 10th WSEAS Intl. Conference on Communications, Greece July 12-15, 2006.