

Dr. Syed Attique Shah

SCHOOL OF COMPUTING AND DIGITAL TECHNOLOGY, BIRMINGHAM CITY UNIVERSITY

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| 📧 attique.shah68 | 🎓 Dr. Syed Attique Shah



Dedicated Academic Leader | Proficient in Data Science, Machine Learning, and IoT Applications | Committed to Cultivating Critical Thinking, Lifelong Learning, and Publishing Innovative Research | Adept at Problem-Solving, Fostering Meaningful Connections, Inspiring Future Leaders through Engaging Teaching

Summary

Working as a Lecturer at the School of Computing and Digital Technology, Birmingham City University (BCU), UK, and also holding the role of programme/course leader for the MSc Advanced Computer Network at BCU. Brings over 10 years of experience in teaching and research. Previously worked as Lecturer/Assistant Professor at the Institute of Computer Science, University of Tartu, Estonia, and also served as Associate Professor and Chairperson for the Department of Computer Science at BUIITEMS, Pakistan. Received Ph.D. from Informatics Institute, Istanbul Technical University, Turkey. Served as a Visiting Scholar at the Tallinn University of Technology (TalTech), Estonia, University of Tokyo, Japan, and National Chiao Tung University, Taiwan. Published more than 20 research papers in reputable Q1 journals with an accumulative impact factor of more than 100, a citation count of over 1700 and an h-index of 20. Presented several research papers at internationally renowned conferences. IEEE Senior Member and Professional Member of the British Computer Society. Recommended by HEC Pakistan as approved Ph.D. supervisor. Involved as Co-PI and Project Lead in three different funded projects. Interested research areas include big data analytics, machine learning, the Internet of Things (IoT), network security and image recognition. Enthusiastic in devising better problem-solving methods for challenging tasks and learning new skills, tools and techniques.

Work Experience

Lecturer/ Assistant Professor

Birmingham, United Kingdom

School of Computing and Digital Technology, Birmingham City University

Feb. 2022 - Present

- Innovate on best practice for learning, teaching, support and assessment methods.
- Acting in accord with the University's strategy, policy and procedures.
- Lead in the design and development of high quality, up-to-date computing modules.
- Conduct high quality research leading to publications in reputable journals and international conference proceedings.
- Serving as **Postgraduate Course (Programme) Leader, MSc Advanced Computer Networks**, January 2024 - Present.

Lecturer/ Assistant Professor

Tartu, Estonia

Chair of Data Science, Institute of Computer Science, University of Tartu

Oct. 2020 - Aug. 2021

- Lecturing and conducting seminars in the field of Big Data on all levels of higher education.
- Supervising research work of students. Participating in the research activities of the Chair of Data Science, Institute of Computer Science.
- Participation in the work of the university's decision-making bodies as recommended.
- Popularisation of the specialisation.

Chairperson (Additional Charge as Head of Department)

Quetta, Pakistan

Department of Computer Science, BUIITEMS

Feb. 2020 - Sep. 2021

- Responsible for leading the department, providing effective administration and supervision of all its resources and supporting excellence in teaching and scholarly activity.
- Contributing to curriculum, resource, program, and subject design, development, and review as required ensuring that learning and teaching in the faculty and across disciplines reflect best practice and a command of the field.

Associate Professor

Quetta, Pakistan

Department of Information Technology, BUIITEMS

Dec. 2021 - Feb 2022

- Develop, design, and deliver a range of course content at various levels for the courses in the Information Technology domain.
- Make a significant contribution to the development and clarification of academic standards and quality.
- Conduct research and other collaborative partnerships with educational institutions and research funding bodies.

Assistant Professor

Quetta, Pakistan

Department of Information Technology, BUIITEMS

Jul. 2014 - Dec. 2021

- Contributing effectively to teaching and learning in Information Technology, exemplifying teamwork and adaptability to ensure the educational and commercial success of the faculty and the University.
- Participating in scholarly activities that influence and enhance learning and teaching at the University.
- Contributing to top-ranked scholarly journals and other recognition efforts within the research community.

Lecturer

Quetta, Pakistan

Department of Information Technology, BUIITEMS

Sep. 2011 - Jul. 2014

- Conducting lectures, tutorials, workshops, practical classes, and demonstrations for students' comprehension.
- Assessing students' coursework and marking examinations.

Education

Post Graduate Certificate (PGCert) (Learning and Teaching in Higher Education)

BIRMINGHAM CITY UNIVERSITY (BCU)

- Higher Education Academy Fellowship (FHEA), UK
- Staff and Educational Development Association (SEDA), UK - Learning and Teaching in Higher Education

Birmingham, UK

Jan. 2023 - Jul. 2024

Doctorate/ Ph.D. (Information Technologies)

INSTITUTE OF INFORMATICS, **ISTANBUL TECHNICAL UNIVERSITY (ITÜ)**

- Acquired Fully Funded Türkiye Bursları Scholarship
- Score: 4/4 CGPA
- ECCTIS UK, qualifications verification unique reference number: V4001118381

Istanbul, Turkey

Sep. 2014 - Sep. 2019

MS (Information Technology)

FICT, **BALOCHISTAN UNIVERSITY OF INFORMATION TECHNOLOGY, ENGINEERING & MANAGEMENT SCIENCES (BUIITEMS)**

- Gold Medalist
- Score: 3.80/4 CGPA

Quetta, Pakistan

Oct. 2010 - Dec. 2013

BS (Information Technology)

FICT, **BALOCHISTAN UNIVERSITY OF INFORMATION TECHNOLOGY, ENGINEERING & MANAGEMENT SCIENCES (BUIITEMS)**

- Secured first position from 1st to 8th Semester and acquired Merit Scholarship.
- Score: 3.62/4 CGPA

Quetta, Pakistan

Oct. 2006 - Sep. 2010

Scholarly Endeavors and International Internships

Module Lead/ Visiting Lecturer

Wuhan University of Science and Technology

- Served as module lead for (Network Technologies) and (Network Design and Management) at Wuhan University of Science and Technology (WUST) China, as part of the Joint Program between Birmingham City University (BCU) and WUST.

Wuhan, China

Nov. 2023 - Dec. 2023

Visiting Scholar

Tallinn University of Technology - TalTech

- Served as Visiting Scholar at the Information Systems Group, School of Information Technologies, Tallinn University of Technology under the Erasmus+ Programme Scholarship.

Tallinn, Estonia

Sep. 2017 - Feb. 2018

Research Intern - Taiwan Elite Internship Program

National Chiao Tung University

- This Internship provided an opportunity to work in the area of big data analytics and machine learning at the Department of Computer Science, National Chiao Tung University, Taiwan.

Hsinchu, Taiwan

March. 2018 - May. 2018

Research Intern

Taisei Corporation

- This Internship focused on the utilization and performance of energy, urban systems, and ICT under the condition of severe natural disasters, fully funded by the Japan-Turkey Cooperative Education Program on Resilience Engineering for Energy and Urban Systems.

Tokyo, Japan

July. 2016 - Aug. 2016

Exchange PhD Student

Technical University of Madrid (Universidad Politécnica de Madrid)

- Completed a course in Geographical Information Systems at the Technical University of Madrid through the ATHENS Programme.

Madrid, Spain

Mar. 2016 - April. 2016

Research Areas

PhD Thesis

PH.D. THESIS TITLE: "A NOVEL FRAMEWORK FOR DISASTER RESILIENT SMART CITIES: USING BIG DATA ANALYTICS"

2019

- Key Area-1: Applying Big Data Analytics to enhance and optimize disaster management processes within Smart City environments
- Key Area-2: Analyzing crowd-sourced and IoT-generated data for enhanced decision-making processes

My current research interests include:

BIG DATA ANALYTICS, INTERNET OF THINGS, INFORMATION SECURITY MANAGEMENT, IMAGE DETECTION AND MACHINE LEARNING

- Key Area-1: Employing Big Data Analytics, Machine and Deep Learning techniques to enhance Health Informatics related frameworks and medical image recognition capabilities
- Key Area-2: Utilizing IoT, GIS, and Big Data Analytics for transportation management and other applications within the Smart City framework
- Key Area-3: Addressing security challenges in IoT networks using SDN, Smart Contracts, and Machine Learning methodologies

Published Peer-Reviewed Journal Articles

1. Shahbaz Siddiqui, Sufian Hameed, Syed Attique Shah, Junaid Arshad, Yussuf Ahmed, Dirk Draheim, "A smart-contract-based adaptive security governance architecture for smart city service interoperations", **Sustainable Cities and Society**, Volume 113, 15 October 2024, 105717, (2024), DOI: <https://doi.org/10.1016/j.scs.2024.105717>. (Impact Factor: 10.5)
2. Xiaoyang Zeng, Qizhen Zhu, Awais Ahmed, Muhammad Hanif, Mengshu Hou, Qiu Jie, Rui Xi, Syed Attique Shah, "Multi-granularity prior networks for uncertainty-informed patient-specific quality assurance", **Computers in Biology and Medicine**, Volume 179, September 2024, 108925, (2024), DOI: <https://doi.org/10.1016/j.combiomed.2024.108925>. (Impact Factor: 7.0)
3. Mohamed Ben Farah, Yussuf Ahmed, Haithem Mahmoud, Syed Attique Shah, M. Omar Al-kadri, Sandy Taramonli, Xavier Bellekens, Raouf Abozariba, Moad Idrissi, Adel Aneiba, "A survey on blockchain technology in the maritime industry: Challenges and future perspectives", **Future Generation Computer Systems**, Volume 157, August 2024, Pages 618-637, (2024), DOI: <https://doi.org/10.1016/j.future.2024.03.046>. (Impact Factor: 6.2)
4. Vipin Deval, Vimal Kumar Dwivedi, Abhishek Dixit, Alex Norta, Syed Attique Shah, Rahul Sharma, Dirk Draheim, "Mobile Smart Contracts: Exploring Scalability Challenges and Consensus Mechanisms", **IEEE Access**, vol. 12, pp. 34265 - 34288, (2024), DOI: 10.1109/ACCESS.2024.3371901. (Impact Factor: 3.9)
5. Awais Ahmed, Xiaoyang Zeng, Rui Xi, Mengshu Hou, Syed Attique Shah, "MED-Prompt: A novel prompt engineering framework for medicine prediction on free-text clinical notes", **Journal of King Saud University-Computer and Information Sciences**, Volume 36, Issue 2, 101933, (2024), DOI: 10.1016/j.jksuci.2024.101933. (Impact Factor: 6.9)
6. Muhammad Hanif Tunio, Jian Ping Li, Xiaoyang Zeng, Fajjan Akhtar, Syed Attique Shah, Awais Ahmed, Yu Yang, Md Belal Bin Heyat, "Meta-knowledge guided Bayesian optimization framework for robust crop yield estimation", **Journal of King Saud University-Computer and Information Sciences**, Volume 36, Issue 1, 101895, (2024), DOI: 10.1016/j.jksuci.2023.101895. (Impact Factor: 6.9)
7. Trung-Viet Nguyen, Lam-Son Lê, Syed Attique Shah, Sufian Hameed, Dirk Draheim, "PenChain: A Blockchain-Based Platform for Penalty-Aware Service Provisioning", **IEEE Access**, vol. 12, pp. 1005-1030, (2023), DOI: 10.1109/ACCESS.2023.3344038. (Impact Factor: 3.9)
8. Awais Ahmed, Rui Xi, Mengshu Hou, Syed Attique Shah, Sufian Hameed, "Harnessing Big Data Analytics for Healthcare: A Comprehensive Review of Frameworks, Implications, Applications, and Impacts", **IEEE Access**, vol. 11, pp. 112891-112928, (2023), DOI: 10.1109/ACCESS.2023.3323574. (Impact Factor: 3.9)
9. Jalal Bhayo, Syed Attique Shah, Sufian Hameed, Awais Ahmed, and Dirk Draheim, "Towards a Machine Learning-based Framework for DDoS Attack Detection in Software-Defined IoT (SD-IoT) Networks", **Engineering Applications of Artificial Intelligence**, Volume 123, 106432, (2023), DOI: 10.1016/j.engappai.2023.106432. (Impact Factor: 8)
10. Shahbaz Siddiqui, Sufian Hameed, Syed Attique Shah, Abdul Kareem Khan, Adel Aneiba, "Smart Contract-based Security Architecture for Collaborative Services in Municipal Smart Cities", **Journal of Systems Architecture**, Volume 135, 102802, (2023), DOI: 10.1016/j.sysarc.2022.102802. (Impact Factor: 4.5)
11. Mizna Khalid, Sufian Hameed, Abdul Qadir, Syed Attique Shah, Dirk Draheim, "Towards SDN-based smart contract solution for IoT access control", **Computer Communications**, Volume 198, Pages 1-31, (2023), DOI: 10.1016/j.comcom.2022.11.007. (Impact Factor: 6)
12. Bushra Qayyum, Atiq Ahmed, Ihsan Ullah, Syed Attique Shah, "A Fuzzy-Logic Approach for Optimized and Cost-Effective Early Warning System for Tsunami Detection", **Sustainability**, Volume 14, Issue no. 21: 14516. (2022), DOI: 10.3390/su142114516. (Impact Factor: 3.9)
13. Ahto Buldas, Dirk Draheim, Mike Gault, Risto Laanoja, Takehiko Nagumo, Märt SAAREPERA, Syed Attique Shah, Joosep Simm, Jamie Steiner, Tanel Tammet, Ahto Truu, "An Ultra-Scalable Blockchain Platform for Universal Asset Tokenization: Design and Implementation", **IEEE Access**, vol. 10, pp. 77284-77322, (2022), DOI: 10.1109/ACCESS.2022.3192837. (Impact Factor: 3.9)
14. Shahbaz Siddiqui, Sufian Hameed, Syed Attique Shah, Ijaz Ahmad, Adel Aneiba, Dirk Draheim, Schahram Dustdar, "Toward Software-Defined Networking-Based IoT Frameworks: A Systematic Literature Review, Taxonomy, Open Challenges and Prospects", **IEEE Access**, vol. 10, pp. 70850-70901, (2022), DOI: 10.1109/ACCESS.2022.3188311. (Impact Factor: 3.9)
15. Ijaz Ahmad, Zeeshan Asghar, Tanesh Kumar, Gaolei Li, Ahsan Manzoor, Konstantin Mikhaylov, Syed Attique Shah, Marko Höyhty, Jarmo Reponen, Jyrki Huusko, Erkki Harjula, "Emerging Technologies for Next Generation Remote Health Care and Assisted Living", **IEEE Access**, vol. 10, pp. 56094-56132, (2022), DOI: 10.1109/ACCESS.2022.3177278. (Impact Factor: 3.9)
16. Rahul Sharma, Minakshi Kaushik, Sijo Arakkal Peious, Alexandre Bazin, Syed Attique Shah, Iztok Fister, Sadok Ben Yahia, Dirk Draheim, "A Novel Framework for Unification of Association Rule Mining, Online Analytical Processing and Statistical Reasoning", **IEEE Access**, vol. 10, pp. 12792-12813, (2022), DOI: 10.1109/ACCESS.2022.3142537. (Impact Factor: 3.9)
17. Hamayoun Shahwani, Syed Attique Shah, Muhammad Ashraf, Muhammad Akram, Jaehoon (Paul) Jeong, and Jitae Shin, "A Comprehensive Survey on Data Dissemination in Vehicular Ad Hoc Networks", **Vehicular Communications**, Volume 34, 100420, ISSN 2214-2096, (2021), <https://doi.org/10.1016/j.vehcom.2021.100420>. (Impact Factor: 6.7)
18. Arbab Sufyan, Muhammad Imran, Syed Attique Shah, Hamayoun Shahwani, and Arbab Abdul Wadood. "A novel multimodality anatomical image fusion method based on contrast and structure extraction", **International Journal of Imaging Systems and Technology**, 32(1): 324-342, (2021); DOI:10.1002/ima.22649 (Impact Factor: 3.3)
19. Jalal Bhayo, Riaz Jafaq, Awais Ahmed, Sufian Hameed, and Syed Attique Shah. "A Time-Efficient Approach Towards DDoS Attack Detection in IoT Network using SDN", **IEEE Internet of Things Journal**, vol. 9, no. 5, pp. 3612-3630, March 1, (2021), DOI: 10.1109/JIOT.2021.3098029. (Impact Factor: 10.6)
20. M. Mazhar Rathore, Syed Attique Shah, Ahmed Awad, Dharendra Shukla, Shanmuganathan Vimal, and Anand Paul, "A Cyber-Physical System and Graph-Based Approach for Transportation Management in Smart Cities", **Sustainability**, Volume 13, Issue 14: 7606, (2021). DOI: 10.3390/su13147606. (Impact Factor: 3.9)
21. M. Mazhar Rathore, Anand Paul, Seungmin Rho, Murad Khan, S. Vimal, and Syed Attique Shah, "Smart Traffic Control: Driving Violation Identification on Fog Devices using Mobile Camera", **Sustainable Cities and Society**, Volume 71, 102986, (2021). Available: <https://www.sciencedirect.com/science/article/pii/S2210670721002729>. DOI: <https://doi.org/10.1016/j.scs.2021.102986>. (Impact Factor: 11.7)
22. Muhammad Bux Laghari, Hamayoun Shahwani, Syed Attique Shah, Raja Asif Wagan, Zahid Rauf, Ihsan Ali, Sultan S. Alshamrani, Jaroslav Frnda, "Towards Enabling Multihop Wireless Local Area Networks for Disaster Communications", **Wireless Communications and Mobile Computing**, Vol. 2021, Article ID 5540480, 14 pages, (2021). DOI: <https://doi.org/10.1155/2021/5540480>. (Impact Factor: 2.146)
23. M. Mazhar Rathore, Syed Attique Shah, Dharendra Shukla, Elmahdi Bentafat, and Spiridon Bakiras, "The Role of AI, Machine Learning, and Big

Data in Digital Twinning: A Systematic Literature Review, Challenges, and Opportunities, **IEEE Access**, vol. 9, pp. 32030-32052, (2021).

DOI: 10.1109/ACCESS.2021.3060863. (Impact Factor: 3.9)

24. Sufian Hameed, Syed Attique Shah, Qazi Sarmad Saeed, Shahbaz Siddiqui, Ihsan Ali, Anton Vedeshin, and Dirk Draheim, "A Scalable Key and Trust Management Solution for IoT Sensors Using SDN and Blockchain Technology", **IEEE Sensors Journal**, vol. 21, no. 6, pp. 8716-8733, (2021). DOI: 10.1109/JSEN.2021.3052009. (Impact Factor: 4.325)
25. Jalal Bhayo, Sufian Hameed, Syed Attique Shah, "An Efficient Counter-Based DDoS Attack Detection Framework Leveraging Software Defined IoT (SD-IoT)", **IEEE Access**, vol. 8, pp. 221612-221631, (2020). DOI: 10.1109/ACCESS.2020.3043082. Available: <https://ieeexplore.ieee.org/document/9285245>. (Impact Factor: 3.9)
26. Muhammad Sohaib Roomi, Muhammad Imran, Syed Attique Shah, Ahmad Almogren, Ihsan Ali, Mansour Zuair, "A Novel De-Ghosting Image Fusion Technique for Multi-Exposure, Multi-Focus Images Using Guided Image Filtering", **IEEE Access**, vol. 8, pp. 219656-219671, (2020). DOI: 10.1109/ACCESS.2020.3043048. Available: <https://ieeexplore.ieee.org/document/9285276>. (Impact Factor: 3.9)
27. Jawad Yousaf, Hosang Lee, Muhammad Faisal, Han Junhee, Wansoo Nah, Hamayoun Shahwani, Syed Attique Shah, and Jun Gyu Yang, "Design, analysis, and validation of Radio Research Agency reverberation chamber", **International Journal of Communication Systems**, e4684, (2020). Available: <https://onlinelibrary.wiley.com/doi/full/10.1002/dac.4684>. (Impact Factor: 2.1)
28. Ihsan Ali, Abdelmuttlib Ibrahim Abdalla Ahmed, Ahmad Almogren, Muhammad Ahsan Raza, Syed Attique Shah, Anwar Khan, Abdullah Gani, "Systematic Literature Review on IoT-Based Botnet Attack", **IEEE Access**, vol. 8, pp. 212220-212232, (2020). DOI: 10.1109/ACCESS.2020.3039985. Available: <https://ieeexplore.ieee.org/document/9268057>. (Impact Factor: 3.9)
29. Jawad Rasheed, Akhtar Jamil, Alaa Ali Hameed, Usman Aftab, Javaria Aftab, Syed Attique Shah, Dirk Draheim, "A survey on artificial intelligence approaches in supporting frontline workers and decision makers for the COVID-19 pandemic", **Chaos, Solitons & Fractals**, ISSN 0960-0779, Volume 141, 110337, (2020). Available: <http://www.sciencedirect.com/science/article/pii/S0960077920307323>. DOI: <https://doi.org/10.1016/j.chaos.2020.110337>. (Impact Factor: 7.8)
30. Syed Attique Shah, Dursun Zafer Şeker, M. Mazhar Rathore, Sufian Hameed, Sadok Ben Yahia, Dirk Draheim, "Towards Disaster Resilient Smart Cities: Can Internet of Things and Big Data Analytics Be the Game Changers?", **IEEE Access**, vol. 7, pp. 91885-91903, (2019). DOI: 10.1109/ACCESS.2019.2928233. Available: <https://ieeexplore.ieee.org/document/8759905>. (Impact Factor: 3.9)
31. Syed Attique Shah, Dursun Zafer Şeker, Sufian Hameed, Dirk Draheim, "The Rising Role of Big Data Analytics and IoT in Disaster Management: Recent Advances, Taxonomy and Prospects", **IEEE Access**, vol. 7, pp. 54595-54614, (2019). DOI: 10.1109/ACCESS.2019.2913340. Available: <https://ieeexplore.ieee.org/document/8698814>. (Impact Factor: 3.9)
32. Syed Attique Shah, Mazhar Ali and Aftab Ahmed, "Resolving Cloud Computing Security Issues Using ITIL Security Management Process", **BUIITEMS, Journal of Applied and Emerging Sciences**, Vol 2, Issue 2, December 2011. ISSN 1814-070X. Page: 190-196.
33. Syed Attique Shah, Dursun Zafer Şeker, Hande Demirel "A Framework for Enhancing Real-time Social Media Data to Improve Disaster Management Process", Book chapter in "Advances in Cartography and GIScience (Lecture Notes in Geoinformation and Cartography)", M. Peterson, Ed. Cham, Switzerland: Springer, Jul. 2017, pp. 75-84. [Online]. Available: http://link.springer.com/10.1007/978-3-319-57336-6_6.

Submitted Journal Papers Under Review

1. Awais Ahmed, Rui Xi, Mengshu Hou, Syed Attique Shah, "Improving Predictive Performance in Imbalanced Intensive Care Data using Cohort Prioritization and Ensemble Learning", (Submitted to **IEEE Journal of Biomedical and Health Informatics**, Under Review)
2. Awais Ahmed, Mengshu Hou, Xiaoyang Zeng, Muhammad Afzal, Syed Attique Shah, "A Novel Robust and Efficient Predictive and Feature Selective Framework for Imbalanced Intensive Care Survival Analysis", (Submitted to **Expert Systems With Applications**, Under Review)
3. Sufian Hameed, Shahbaz Siddiqui, Muhammed Rafi, Taha Asif, and Syed Attique Shah, "Examining the Relationship between the Global Energy Crisis and Cryptocurrency Mining: A Proof of Work vs. Proof of Stake Comparison", (Submitted to **IEEE IT Professional**, Under Review)
4. Awais Ahmed, Syed Attique Shah, "B-EANET: A novel transformers-based external attention framework for multi-modal breast cancer classification," (Submitted to **Applied Intelligence**, Under Review)
5. Awais Ahmed, Syed Attique Shah, "Enhancing multimodal medical image analysis with slice-fusion: A novel fusion approach to address modality imbalance," (Submitted to **Computer Methods and Programs in Biomedicine**, Under Review)

Conference Papers

- Ahmed, Awais, Mengshu Hou, Rui Xi, Xiaoyang Zeng, and Syed Attique Shah. "Prompt-Eng: Healthcare Prompt Engineering: Revolutionizing Healthcare Applications with Precision Prompts." In Companion Proceedings of the ACM on Web Conference 2024, WWW '24, pp. 1329-1337. 2024. DOI: 10.1145/3589335.3651904 (Core Rank A* Conference).
- Syed Attique Shah, Xiaoyang Zeng, Awais Ahmed, Shaheed Parvez, Rui Xi, and Mengshu Hou, "Multi-Instance Bias Suppression for Enhanced Generalization in Breast Cancer Diagnosis: Harnessing Histopathological Big Data Insights", 2023 IEEE International Conference on Big Data (BigData), Sorrento, Italy, 2023, pp. 857-864, DOI: 10.1109/BigData59044.2023.10386103. (Core Rank B Conference).
- Syed Attique Shah, Emil Anthony Arputham, Awais Ahmed, Mohamed Ben Farah, Attal Shah, Abdul Aziz, "Sorting the Digital Stream: Big Data-driven Insights into Email Classification for Spam and Ham Detection", 2023 IEEE International Conference on Big Data (BigData), Sorrento, Italy, 2023, pp. 5598-5607, DOI: 10.1109/BigData59044.2023.10386224. (Core Rank B Conference).
- Syed Attique Shah, Sadok Ben Yahia, Keegan McBride, Akhtar Jamil, Dirk Draheim, "Twitter Streaming Data Analytics for Disaster Alerts", 2021 2nd International Informatics and Software Engineering Conference (IISEC), 2021, pp. 1-6, DOI: 10.1109/IISEC54230.2021.9672370.
- Alaa Ali Hameed, Akhtar Jamil, Zeynep Orman, Syed Attique Shah, "Application of Generalized Relevance Linear Vector Quantization for Diabetes Diagnosis", 2021 International Conference on Innovative Computing (ICIC), 2021, pp. 1-5, DOI: 10.1109/ICIC53490.2021.9693077.
- Mahtab Shahin, Sijo Arakkal Peious, Rahul Sharma, Minakshi Kaushik, Sadok Ben Yahia, Syed Attique Shah, and Dirk Draheim. "Big Data Analytics in Association Rule Mining: A Systematic Literature Review". 2021, 3rd International Conference on Big Data Engineering and Technology (BDET), Singapore, January 16 - 18, 2021. Association for Computing Machinery, 40-49. DOI: <https://doi.org/10.1145/3474944.3474951>
- Mahtab Shahin, Wissem Inoubli, Syed Attique Shah, Sadok Ben Yahia, Dirk Draheim. "Distributed Scalable Association Rule Mining over Covid-19 Data". In: 8th International Conference on Future Data and Security Engineering, (virtual), November 24-26, 2021, Ho Chi Minh City, Vietnam. FDSE 2021. Lecture Notes in Computer Science, vol 13076. Springer, Cham. https://doi.org/10.1007/978-3-030-91387-8_3
- Mahtab Shahin, Soheila Saeidi, Syed Attique Shah, Minakshi Kaushik, Rahul Sharma, Sijo A. Peious, Dirk Draheim, "Cluster-Based Association Rule Mining for an Intersection Accident Dataset", 2021 International Conference on Computing, Electronic and Electrical Engineering (ICE Cube), 2021, pp. 1-6, DOI: 10.1109/ICECube53880.2021.9628206.

- Sijo Arakkal Peious, Rahul Sharma, Minakshi Kaushik, Syed Attique Shah, Sadok Ben Yahia, “Grand Reports: A Tool for Generalizing Association Rule Mining to Numeric Target Values”, International Conference on Big Data Analytics and Knowledge Discovery, pp. 28-37, DaWaK 2020, Bratislava, Slovakia, September 14–17, 2020
- Syed Attique Shah, Sadok Ben Yahia, Keegan McBride, and Dirk Draheim, “Twitter-based Big Data Analytics for Disaster Alerts: TAGS (Twitter Alert Generation System)”, Intermountain Engineering, Technology, and Computing Conference (i-ETC), October 2nd-3rd 2020. Orem, UT, USA
- Syed Attique Shah, Dursun Zafer Şeker, Hande Demirel “A Framework for Enhancing Real-time Social Media Data to Improve Disaster Management Process”, 28th International Cartographic Conference. July 2-7, 2017, Washington, DC, USA.
Available: <https://ica-proc.copernicus.org/articles/1/101/2018/>, https://link.springer.com/chapter/10.1007/978-3-319-57336-6_6

Posters

- Syed Attique Shah, Dursun Zafer Şeker, Caner Güney “Integrating Data Source Possibilities for Geo-Business Intelligence”, GEOSPATIAL WORLD FORUM, World Trade Center, Rotterdam, Netherlands, May 23-26, 2016. (Link Available Here)

Modules Lead/Taught at Level 4 to 7

- Applied Machine Learning
- Introduction to Big Data
- Database Fundamentals
- Programming Fundamentals (Python)
- Principles of Artificial Intelligence
- Software Engineering
- Industrial Internet of Things
- Information Systems

Supervisions

PhD

- Mahtab Shahin, (Generalized Association Rule Mining – Big Data Integration), Co-Supervision with Prof. Dirk Draheim, Tallinn University of Technology, Tallinn, Estonia. *Expected to be completed in Spring, 2025*
- Awais Ahmed, (Big Data Analytics in Healthcare Informatics), Co-Supervision with Prof. Mengshu Hou, University of Electronic Science and Technology of China, Chengdu, China. *PhD successfully completed in July 2024*
- Shahbaz Siddiqui, (Adaptive Security Framework For Interoperable Services in Smart Cities), Co-Supervision with Sufian Hammed, National University of Computer and Emerging Sciences (NUCES), Karachi, Pakistan. *PhD successfully completed in March 2024*

MSc

- Yukta Chauhan (AI-Powered Deep Fake Generation and Detection), 2023
- Hamza Wajid (Leveraging Web Development for Fake News Verification), 2023
- Jack Samuel Gill (Optimizing Feature Selection for Enhanced Threat Detection and Prediction in IoT Environments), 2023
- Chidi C. Eke (Intrusion Detection for IoT Systems using Supervised Learning Techniques), 2023
- Emil Anthony (A Comprehensive Analysis on Email Ham and Spam Detection Using Supervised Learning Classification Methods), 2022
- Kulwinder Kaur (The Rising Role of Machine Learning Models for the Credit Card, Insurance, and E-Commerce Fraud Detection), 2022
- Muhammad Asim (A Comprehensive Examination of Machine Learning and Deep Learning Approaches for IDS), 2022
- Ali Raza (Performance Analysis of Supervised Machine Learning Algorithms for IDS with Feature Selection Techniques), 2022
- Syed Aienullah (Facial Expressions and Key Coordinates Recognition using Deep Learning Techniques), 2022
- Qaisar Khan (Using Big Data Analytics to Predict Patient’s Admission Trends in Hospitals), 2021
- Ehsanullah Khadim (Detecting Malaria Parasite via CNN-based Inception Architecture Using Thin Blood Smear Images), 2021

Professional Activities

Funded Projects

- **Co-Principal Investigator**
Spatial Decision Support System (SDSS) Lab under the National Center of GIS and Space Applications (NCGSA) 2021
Capital Cost: 965.121 Million PKR
Allocated Cost: 69 Million PKR
Duration: 12 Months
- **Co-Principal Investigator**
BUIITEMS-ORIC Large-scale Competitive Grants, Smart Traffic Light Scheduling for Efficient Vehicle Flow 2021
Allocated Cost: 2.0 Million PKR
Duration: 6 Months
- **Project Lead**
3PA ICA Adaptation Project on using GIS for food security 2020
United Nations, World Food Programme (WFP)
Duration: 6 Months

Invited Talks

- Title of talk: “Drone Deliveries Face Cybersecurity Vulnerabilities. Advanced IoT Systems Are Both Their Risk and Their Defense”. Presented a talk on the cybersecurity vulnerabilities faced by drone delivery systems and explored the role of advanced IoT systems in both posing risks and providing solutions. The presentation was featured in an interview with MarketScale (Link Available Here).
- Title of talk: “The Rising Role of Big Data Analytics in the Internet of Things: State-of-the-art Advances and Prospects” at 2nd International Conference On Information Science & Communication Technology, 2020, Karachi, Pakistan.
- Title of talk: “Geo-Forensic and Geo-Health Component of Spatial Decision Support System Lab, National Center of GIS and Space Applications, Pakistan” at Seventh International Conference on Aerospace Science & Engineering (ICASE), 2021, Islamabad, Pakistan.

Editorial and Reviewer Services

- Special Issue Editor for a Special issue entitled “Advances in System Design and IoT Based Smart City” in Big Data and Cognitive Computing. Impact Factor (3.7). (Link Available Here), (2024)
- Guest Editor for a Special issue entitled “Smart Cities 2.0: How AI and IoT are Transforming Urban Living” in IET Smart Cities Journal. Impact Factor (3.1). (Link Available Here), (2023)
- Served as an External Examiner for a Ph.D. Thesis on “Security Policy for Mitigating DDoS Attacks on 5G-Enabled IoT Devices” at Macquarie University, NSW 2109, Australia (2023)
- Reviewer for IEEE Internet of Things Journal, IEEE Access, IEEE Systems Journal, IEEE Networking Letters, IEEE IT Professionals and IEEE Sensors
- Reviewer for Elsevier’s Journal of Computer Communications, Future Generation Computer Systems, and Journal of Systems Architecture
- Reviewer for Hindawi Wireless Communications and Mobile Computing, and Mobile Information Systems
- Reviewer for 17th International Conference on Information Systems for Crisis Response and Management Blacksburg, Virginia (USA)

Conferences and Workshops Participations

- IEEE International Conference on Big Data (IEEE BigData 2023), Dec 15-18, 2023, Sorrento, Italy
- 2nd International Informatics and Software Engineering Conference organized by TBD and IEEE. 16-17 December, 2021, Ankara, Turkey
- Seventh International Conference on Aerospace Science & Engineering (ICASE), 14-16 December, 2021, IST, Islamabad, Pakistan
- 4th International Conference on Innovative Computing (ICIC), 9-10 November, 2021, Lahore, Pakistan,
- International Conference on Computing, Electronic and Electrical Engineering (ICECube), 26-27 October, 2021, BUITEMS, Quetta, Pakistan
- 3rd International Conference on Big Data Engineering and Technology (BDET), January 16-18, 2021, Singapore,
- 8th International Conference on Future Data and Security Engineering, (virtual), November 24–26, 2021, Ho Chi Minh City, Vietnam
- International Conference on Big Data Analytics and Knowledge Discovery, September 14–17, 2020, Bratislava, Slovakia
- Intermountain Engineering, Technology, and Computing Conference (i-ETC), October 2-3 2020, Orem, UT, USA
- 2nd International Conference on Information Science and Communication Technology: 8th-9th February 2020, Karachi, Pakistan
- 28th International Cartographic Conference, July 2-7, 2017, Washington, DC, USA
- GEOSPATIAL WORLD FORUM, World Trade Center, May 23-26, 2016, Rotterdam, Netherlands
- International Conference on Computing, Electronic, and Electrical Engineering (ICE Cube), April 11-12, 2016, BUITEMS, Quetta, Pakistan
- ICDIM 2013, IEEE 8th International Conference on Digital Information Management, September 2013, Islamabad, Pakistan
- 3rd International Conference of Computer and Emerging Technologies (ICCET), March 5-7, 2013, Shah Abdul Latif University Khairpur, Pakistan
- 2nd International Conference of Computer and Emerging Technologies (ICCET), April 13-15, 2012, Shah Abdul Latif University Khairpur, Pakistan

Program Committees

2023	Session Chair for “S8: Machine Learning Algorithms II.” , IEEE International Conference on Big Data (IEEE BigData 2023), Dec 15-18, 2023, Sorrento, Italy	Italy
2023	Quality Assurance and Compliance Lead , School of Computing and Digital Technology, Birmingham City University	UK
2023	Program Committee Member , 3rd Workshop on Advances in Data Systems Management, Engineering, and Analytics (Megadata) held in 2023 IEEE/ACM 23rd International Symposium on Cluster, Cloud and Internet Computing Workshops (CCGridW), Bangalore, India, DOI Bookmark: 10.1109/CCGridW59191.2023.00010	India
2022	Program Committee Member , IEEE, 2nd International Conference on Computing and Machine Intelligence (ICMI 2022), July 15-16, 2022, Istanbul Atlas University	Turkey
2021	Session Chair- Computing and Intelligent Systems , IEEE ICE CUBE 2021, 26 - 27 October 2021, Quetta	Pakistan
2021	Publicity & Public Relation Committee , IEEE ICE CUBE 2021, 26 - 27 October 2021, Quetta	Pakistan
2021	Program Committee Member , International Conference on Advanced Engineering, Technology and Applications (ICAETA-2021), July 09 - 11, 2021, Istanbul Aydın University	Turkey
2021	National Computing Education Accreditation Council , Resource person for accreditation of bachelor’s degree (BS CS and BS IT) at BUITEMS	Pakistan
2019	Administrative Member & Organizer , Promoting Agricultural Entrepreneurship Among Youth to Achieve SDG 8, BUITEMS, 4 December 2019	Pakistan
2017	Student Assistant , 28th International Cartographic Conference, Washington, DC July 2-7, 2017	USA
2016	Publicity & Public Relation Committee Member , IEEE ICE CUBE 2016, 11 - 12 April, 2016 Quetta	Pakistan

Professional Memberships

- Senior Member, Institute of Electrical and Electronics Engineers- IEEE Senior Member (95702658)
- Professional Member of the British Computer Society, BCS - The Chartered Institute for IT, MBCS (995146113)
- Association for Computing Machinery- ACM Professional Member

Skills

Programming:	Python, C/C++, Scala
Databases:	PostgreSQL, MongoDB, Redis
Big Data Analytics tools:	Apache Hadoop Ecosystem, Apache Spark, Hive, Kafka
Systems & Environments:	IoT and (Microsoft Azure, AWS) Cloud-based system deployment and management
Other Tools:	ArcGIS, QGIS, Kibana, SAP Power Designer, Packet Tracer, Talend, WEKA
Languages:	English (TOEFL: 98), Turkish (C1 Certification), French (A1 Level), Urdu (Regional), Pashtu (Native)

Honors & Awards

2024	I AM BCU Awards , Shortlisted for the Inspirational Teacher of the Year Award, (Link Available Here)	<i>Birmingham, United Kingdom</i>
2021	HEC Pakistan Research Travel Grant Fund for University Faculty , for attending IEEE 2nd International Informatics and Software Engineering Conference	<i>Ankara, Turkey</i>
2021	HEC Pakistan Approved PhD Supervisor , recognized supervisor for doctoral students funded under various HEC PhD Scholarship Programs	<i>Islamabad, Pakistan</i>
2019	Dora Plus (European Regional Development Fund) Mobility Grant , for doctoral studies at Information Systems Group, Tallinn University of Technology	<i>TalTech, Estonia</i>
2018	Taiwan Elite Internship Program , for doctoral studies at the Department of Computer Science, National Chiao Tung University	<i>NCTU, Taiwan</i>
2017	International Cartographic Association (ICA) Grant , for presenting research paper as a young scientist at the 28th International Cartographic Conference	<i>Washington DC, USA</i>
2017	Erasmus+ Programme Scholarship , for Fall 2017 to continue doctoral studies at Department of Software Science, Tallinn University of Technology	<i>TalTech, Estonia</i>
2016	Fully Funded Student Exchange JTRE Program Scholarship , as an exchange student in Resilience Engineering for Energy and Urban Systems at the University of Tokyo	<i>Tokyo, Japan</i>
2016	Athens Programme - Athens Network , for a 2-week course on GIS as an exchange student at the Technical University of Madrid	<i>Madrid, Spain</i>
2014	Fully Funded Türkiye Bursları Scholarship , for Ph.D. studies from 2014-2019 at Istanbul Technical University	<i>Istanbul, Turkey</i>
2013	Excellence Award for the 2013 Best Teacher , designated for overall best teaching evaluations in the Faculty of ICT, BUIITEMS	<i>Quetta, Pakistan</i>
2013	Gold Medal , designated by the Chancellor BUIITEMS for first position in MS (Information Technology)	<i>Quetta, Pakistan</i>
2011	HEC FATA-Balochistan Scholarship , for post graduate studies	<i>Quetta, Pakistan</i>
2006	BUIITEMS Merit Scholarship , Secured first position from 1st to 8th Semester in BS (Information Technology).	<i>Quetta, Pakistan</i>

Extracurricular Activities

- Club-Level Cricketer
- 5K Runner (Sub 23 mins)
- Enthusiastic Traveler: Explored 29 countries and counting
- Second Position in inter-university squash tournament BUIITEMS, 2009
- Painting modern abstract art that is exhibited in various international symposiums

References

From 2017	Prof. Dr. Dirk Draheim , Full Professor of Information Systems, Head of the Information Systems Group, Faculty of Information Technology, Tallinn University of Technology Contact No (GSM): +372 58846997 Email: dirk.draheim@taltech.ee	<i>Estonia</i>
From 2014	Prof. Dr. Dursun Zafer Şeker , Full Professor and Coordinator of the Geographical Information Technologies (GIT), Department of Geomatics Engineering, Istanbul Technical University Contact No (GSM): +90 533 350 3483 Email: seker@itu.edu.tr	<i>Turkey</i>
From 2022	Prof. Dr. Adel Aneiba , Professor and Head of College - Computing, Birmingham City University Contact No (Office): +44 0121 331 7494 Email: adel.aneiba@bcu.ac.uk	<i>United Kingdom</i>
From 2013	Prof. Dr. Sufian Hameed , Full Professor and HEC Pakistan Approved Supervisor for Ph.D. Students, FAST-National University of Computer and Emerging Sciences (NUCES), Karachi Contact No (Office): +92 (021) 111 128 128 (Ext.297) Email: sufian.hameed@nu.edu.pk	<i>Pakistan</i>