

Dr. Muhammad Shahzad Sarfraz

Director FAST-NUCES CFD Campus

Head, FAST School of Computing

Professor of Computer Science

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I have been an active player in Computer Science and Geospatial Technologies. I lead the core thematic areas of ICT tools for Health, Agriculture, Disaster management, Location-based systems, and related GIS-based applications. My focus areas include the use of web-based and open-source tools related to Remote Sensing and GIS, along with developing tools for organizational needs and readiness assessment, and the evaluation of eHealth initiatives.

EDUCATION

Ph.D in Computing (RS & GIS)	AIT, Thailand, 2012
M.S in Computing (RS & GIS)	AIT, Thailand, 2009
M.Sc. in Computer Science	University of Agriculture, Pakistan, 2006
BCS in Computer Science	University of Punjab, Pakistan, 2004

ADMINISTRATIVE EXPERIENCE

1. Partnering with institutional leadership, special committees, and consultants to support the execution of key initiatives and resolve challenges.
2. Communicating and implementing the University's plan of action internally and externally with all stakeholders.
3. Propagate decision-making that creates medium and long-term process enhancements.
4. Continuous maintenance of departmental planning and establishing initiatives to reflect the university mission and vision.
5. Acting as a resource across an organization to increase broad cohesion for dream work.

PROFESSIONAL EXPERIENCE

Professor of Computer Science National University of Computer and Emerging Sciences	January 01, 2022 – Present FAST-NUCES, Pakistan
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Director Campus National University of Computer and Emerging Sciences	August 01, 2020 – Present FAST-NUCES Pakistan
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Head Department of Computer Science National University of Computer and Emerging Sciences	January 01, 2019 July 31, 2020 FAST-NUCES, Pakistan
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Associate Professor & Head of Graduate Program National University of Computer and Emerging Sciences	Sep 05, 2018 – Dec. 31, 2021 FAST-NUCES, Pakistan
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Head, Spatial Analytic Research (SAR) group, to conduct cutting-edge research on several real-world issues using Multispectral and Hyperspectral sensors.

Associate Professor
University of Gujrat

April 15, 2015 – September 05, 2018
Pakistan

- Chairperson Computer Science Department
- Director Evening Programs

Assistant Professor & Head of Graduate Program
National University of Computer and Emerging Sciences

March 01, 2014 – April 14, 2015
FAST-NUCES, Pakistan

Assistant Professor
COMSATS Institute of Information Technology (CIIT)

December 31, 2012 – February 28, 2014
Pakistan

Visiting Researcher
National Institute of Informatics, Tokyo (NII)

August 01, 2010 – March 31, 2011
Japan

Research Associate/PhD Fellow
Asian Institute of Technology (AIT)

January 14, 2008 – December 30, 2012
Thailand

Lecturer
COMSATS Institute of Information Technology (CIIT)

August 04, 2006 – December 31, 2007
Pakistan

Lecturer of Computer Science
International Academy & Computer College, Faisalabad

October 01, 2004 – January 01, 2006
Pakistan

Assistant Programmer/Database Administrator
Saeed Umer Traders, Faisalabad

December 01, 2002 – August 31, 2004
Pakistan

PROFESSIONAL MEMBERSHIP

1. Member of ACM
2. Senior Member IEEE
3. Member of Canadian Remote Sensing Society
4. Member International Association of Chinese Professionals in GIS
5. Member Geological Society of America
6. Member International Society for Photogrammetry and Remote Sensing
7. Member Asian Society of Remote Sensing
8. Member of ISPRS Health Working Group
9. Member of Punjab Public Service Commission, Punjab
10. Member Board of Studies, University of Education
11. Member of Board of Studies & Board of Faculty, National Textile University, Pakistan
12. Member of Board of Faculty, Government College University, Faisalabad
13. Member of Pak One Health Alliance
14. Member of American Telemedicine Association
15. Member of eHealth Association of Pakistan

HONORS & AWARDS AND FUNDED PROJECTS

1. **HEC Funded Research Project** Vector-borne Infectious Diseases Surveillance and Response System using Earth Observation Data. Funding amount Rs. 4.8 Million.
2. **NUCES Faculty Research Support Grant (FRSG)** Awards of worth Rs. 5.4 Million for the year 2023-2025.
3. **HEC Travel Grant for Conference** Presentation for presenting research at “Symposium on ”Developments, Technologies and applications in Remote Sensing” during May 7-10, 2018 in Beijing China.
4. **Winner of Start-up Incubator** during 2016 & 2018 Business Plan Competition at University of Gujrat
5. **Winner of HEC Travel Award** for presenting research at “XXII International Society for Photogrammetry and Remote Sensing (ISPRS) Congress 2016” July 12-19, 2016.
6. **HEC Scholarship** for MS leading to Ph.D.
7. **Winner of ISPRS Grant** for presenting research results at “ISPRS TC VIII Mid-Term Symposium 2014” by ISPRS Foundation during 9-12 December, 2014 in Hyderabad, India.
8. **Winner of GSA-USA Grant** for presenting research results at “Geological Society of America, 2014” by GSA International Section held on 19-22 October, 2014 in Vancouver, BC, Canada.
9. **Winner of NASA Award** for presenting research results at “2nd Symposium on Advances in Geospatial Technologies for Health” by NASA held during August 25-29, 2013 in Arlington, USA.
10. **Best oral presentation award** at the 1st International Conference on Health Science Thai Traditional and Alternative Medicine held on 21-23 Nov at Mahasarakam, Thailand.
11. **ProSPER.NET thesis competition prize** for excellent research presentation held at headquarter of United Nation (UN) University, Japan.
12. **1st position in the Department** of Computer Science, Batch-2006, University of Agriculture, Faisalabad, Pakistan.

SERVEICES RENDERED

1. Convener, Selection Committee for the appointment of Office Staff, NUCES CFD Campus
2. Convener, Board of Studies, Department of Computer Science, University of Gujrat (UoG)
3. Convener, Departmental Research and Review Committee (DRRC), UoG
4. Member, Finance and Planning Committee, UoG
5. Member, Business Incubation Centre Advisory/Mentor Committee, UoG
6. Focal Person, NCEAC Accreditation Programs for Faculty of Computing & IT, UoG & NUCES
7. Member, Departmental Research and Review Committee (DRRC), Department of IT, UoG
8. Member, of Drafting and Proposing ORIC Policy of UoG
9. Convener, Online Admission Data Cell for the Year 2015, UoG

10. Member, PEEF Scholarship Committee for Master level Programs for the Year 2016-17, UoG
11. Member, National Curriculum Revision Committee (NCRC) of Higher Education Commission on Remote Sensing & Geographical Information Systems.
12. Member, Punjab Public Service Commission and Interviewed Network Administrator, District Education Officer Literacy, Database Administrator etc.
13. Member, of National Grassroots ICT Research Initiative (NGIRI, 2015-16) for National level Competition being organized by the National ICT R&D Fund, Ministry of Information Technology, Govt. of Pakistan
14. Member, Committee of Academia-Industry Linkages, UoG
15. Judge and Evaluator for Prime Minister's Youth Skills Development Program
16. Member, Trainers Selection Committee for Sports, UoG
17. Block In-charge for UET combined entry test 2016 conducted at Hafiz Hayat Campus, UoG
18. Member of Selection Committee for Administrative Posts in BPS-17 and above at UoG
19. Paper Setter/moderator for BA/BSc/B.Com/MA/M.Sc/M.Com (Annual System of Examination) for 2016-2019, UoG
20. Co-opted Member, for Reviewing and Negotiating the Plan regarding Corporate Health Insurance for UoG Employees
21. Member, Business Plan Competition Committee UoG
22. Subject Expert/Convener Selection Committee for Appointment of Faculty on Contract-basis at UoG Hafiz Hayat, Lahore and Sialkot Campuses
23. Member, Scholarship Award Committee, UoG
24. Member, Academic and Financial Audit UoG, Lahore Campus
25. Member of Academic Council of UoG and NUCES
26. Faculty/administrative Staff Academic Audit Committee, UoG Sub-campus Lahore (PPP)
27. Member Appellate Committee to Review Cases of Students Appeals
28. PhD Program Teams (PT) for Self-assessment Report, UoG
29. Critic/inspector for End Term Examination Spring-2017, UoG
30. Internal Scholarship Award Committee (ISAC) for HEC Need-based Scholarship and Tuition-fee Concession for the Year 2017-2018
31. IT Equipment Committee for Strengthening/overseeing and Smooth Proceedings of the Procurement Process of the Equipment, UoG
32. Convener Curriculum/Exam Committee, UoG
33. Member Working Group for the development of TORs of MOUs for academic collaboration between UESTC, China and UoG.
34. Member, Research Group for the implementation of certain roles to accelerate the academia-industry linkages, UoG.

THESES SUPERVISION

1. **Umer Iqbal** 2024 - Present
Discovering Archaeological Sites and Land cover/land-use Change in Chiniot using Remotely Sensed Images PhD
2. **Awais Azam** 2023 - Present
A Cross-Domain Recommendation Approach with Aspect-Based Sentiment Analysis and Transfer Learning for Cold Start Challenges PhD
3. **Muhammad Usman** 2022- Present
A blockchain based hybrid access control model for IoT using ML PhD
4. **Adeel Ashraf Cheema** 2022- Present
Latent User-profiling for IoT facilitated Cross Domain Recommender Systems PhD
5. **Ch. Usman Ghous** 2022 - Present
Active Transfer Learning for Hyperspectral Image Classification PhD
6. **Mr Shahbaz Ahmed** 2014 – 20
Web GIS-based Surveillance and Prediction System for Dengue Virus in Punjab Pakistan Ph.D.
7. **Wania Fatima** 2022 – Present
Influential Factors Affecting Students Academic Performance in Online Education MS
8. **Kashaf Shakoor** 2021 – 23
Dengue Risk Assessment Using real Time Climate and Environment Staellites Data MS
9. **Areeba Waseem** 2021 – 23
Trajectory and Hotspot Analysis of Hate Speech on Social Media Networks MS
10. **Malahat Fatima** 2017 – 21
Geo Spatial Technologies for Real Time Monitoring of Vector borne Diaseases and Forecasting Possible Threats MS
11. **Mr. Umair Ashfaq** 2020 – 22
Social Media Warn Audience Prediction for e-commerce Using Machine Learning MS
12. **Ms. Mahnoor Khalid** 2020 – 22
Plants Health Detection using Deep Learning MS
13. **Samia Aziz** 2020 – 22
Geo Spatial Mapping of Hate Speech Prediction in Roman Urdu MS
14. **Momna Javaid** 2020 – 22
WebGIS Based Real Time Surveillance and Response System for Vector Borne Infections Diseases MS
15. **Aroosa Razzaq** 2019 – 21
Maize Plants Disease Classification Using Multispectral Images MS
16. **Rameen Zehra** 2018 – 21
Temporal and Spatiotemporal Sentiment Analysis of Tourists on Flicker MS

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| 17. Muhammad Hammad Musaddiq | 2018 – 21 |
| Geospatial and Machine Learning Techniques for Predicting Students Academic Performance | MS |
| 18. Talha Munir | 2018 – 21 |
| Air Pollution Prediction affecting Acute Respiratory Infection Disease using Remotely Sensed Images | MS |
| 19. Nida Hussain | 2018 – 21 |
| Environmental Constraints of Optimization Crop Yield Prediction | MS |
| 20. Noor Asim | 2018 – 21 |
| Weed Identification using Vegetation indices and Multispectral UAV Imaging | MS |
| 21. Ms Farwa Ahmad | 2017 – 20 |
| Expert Recommendation System in Community Question Answering Forum Based on Users Profiles | MS |
| 22. Ms Areeba Umair | 2018 – 20 |
| Prediction of Career Projection Trajectories of Pakistani Graduates using LinkedIn Data | M.Phil. |
| 23. Ms Sahar Ajmal | 2017 – 19 |
| PUB-VEN: A Hybrid Expert System for Suggesting Publication Venue | M.Phil. |
| 24. Ms Maryam Saeed | 2016 – 18 |
| Web-based Intervention and Analysis System for the Parents of Depressed and Anxious Adolescent | M.Phil. |
| 25. Ms Madiha | 2016 – 18 |
| Spatial Inter-relationship of Quality of Life with Socio and Demographic Factors | M.Phil. |
| 26. Mr Shahbaz Baig | 2015 – 17 |
| Analysing Spatial Dependencies of Contaminated Crops using Geospatial Technologies | M.Phil. |
| 27. Ms Rafia Ilyas | 2012 – 14 |
| Effective Solution of University Time Tabling using Practical Swarm Optimizer | M.Phil. |
| 28. Mr Abdul Shakoor | 2010 – 12 |
| Security Technique in Mobile Clouds to Ensure Malware Prevention | M.Phil. |

WORKSHOPS CONFERENCES ORGANIZED/PARTICIPATED

1. Conference Host, International Conference on IT and Industrial Technologies (ICIT) held during October 09-10, 2023, Faisalabad, Pakistan
2. Conference Host, International Conference on IT and Industrial Technologies (ICIT) held during October 03-04, 2022, Faisalabad, Pakistan
3. 6th International Conference on Sustainability in Process Industry (SPI) held during October 19-20, 2022, GIKI, Pakistan

4. ISPRS Technical Commission symposium on Developments, Technologies and Applications in Remote Sensing held during May 07-10, 2018 Beijing China
5. TEDx held on 6th April, 2016 at Library Auditorium University of Gujrat.
6. Annual Summit of Emerging Technologies (AEST) held on April 14, 2016 at Library Auditorium University of Gujrat.
7. TECHIE Empowerment Summit held on April 29, 2016 at UoG
8. E-Gamming and Programming Competition held on April 21 and 25, 2016 at UoG
9. Geographical Information System for Water Management Officers during 09-10 December conducted by Water Management Training Institute, Lahore.
10. Strategies for Urban Flooding Management during 28-29 June 2012, Jointly organized by AIT, Polytech, University of Sophia Antipolis/Polytech Nice Sophia and National University of Singapore/DLR German Space Agency, Germany.
11. Expert Group Meeting on Geo-Reference Disaster Risk Management Information System in Asia-Pacific Region, during 15-17 February, 2012. Organized by UN-ESCAP (Economic and Social Commission for Asia and the Pacific).
12. Advance Satellite Image Processing for LULCM Project for Bhutan: during 26-March-13 April, 2012 at Asian Institute of Technology (AIT), Thailand.
13. GIS and Remote Sensing in Irrigation Planning, during 6-June-1-July, 2011, Organized by AIT and supported by “Ministry of Energy and Water (MEW), Afghanistan.
14. Professional Development Needs Assessment and APMAS Startup Workshop during 6-11 July 2010 organized by AIT Extension (Professional Education for Capacity Building) and sponsored by IFAD (International Fund for Agricultural Development).
15. International Conference on Sustainable Development in the context of Climate Change, Asian Institute of Technology during 24-25 September 2009 sponsored by UNESCAP (United Nation Economic and Social Commission for Asia and the Pacific).
16. 4th International Workshop on Frontiers of Information Technology during December 20-21, 2006 Islamabad Pakistan, Organized by COMSATS Institute of Technology and sponsored by Higher Education Commission (HEC) Pakistan

WORKSHOPS AND CERTIFICATES

1. Advance Optical Fiber Systems and Li-Fi Demonstration held on August 26, 2021, organized by EPTech and FAST-NUCES CFD Campus
2. Session Chair for Technical Session: Big Data Analytics in Health, Machine Learning and Artificial Intelligence during 7th International Conference on HealthGIS: Geo Intelligence for Smart Healthcare on February 25-26, 2021

3. Certificate of Participation, Impact Factor Publication organized by FAST-NUCES CFD Campus on April 11, 2019
4. Certificate of Participation, Design & Development of Curriculum and its Assessment Techniques organized by FAST NUCES CFD on March 14, 2019
5. Seventh International Conference on Remote Sensing and Geoinformation of Environment – RSCy2019 organized by Cyprus Remote Sensing Society held on March 18-21, 2019
6. Certificate of Participation, The 39th Asian conference on Remote Sensing (ACRS 2018), Malaysia, 2018
7. Certificate of Participation, 5 Day HEC Indigenous On-Campus Training, Pakistan, 2015
8. Student Consortium Summer School “Big Geo-sensing Data Ecosystem: Theory, Processing & Application held at Menara Razak, UTM KL on 20th to 24th October 2018
9. TIF Certificate of Support, The ISPRS Technical Commission VIII Symposium on Operational RS Applications, Hyderabad, India, 2014
10. Guest of Honor, FAST-NUCES, 101 Programmer’s Battle 2014
11. Certificate of Participation, Encouraging Problem solving Research Policy for Enabling Environment, Pakistan, 2014
12. Certificate of Appreciation, AgMIP-Pakistan, 2014
13. Research Productivity Award, COMSATS University Islamabad, Pakistan, 2014
14. Certificate of Recognition, Seminar on Emerging Technologies and Trends in computer Science, Pakistan, 2014
15. Certificate of Training, Training on Use of Innovative Statistical Tools for Data Analysis, Pakistan, 2014
16. Acknowledgement of Participation, eHealth Association of Pakistan, 2013
17. Certificate of Merit, ISPRS, Supported by NASA, USA, 2013
18. Certification of Appreciation, Geo-Spatial Technologies for Spatial Epidemiology, Indonesia, 2013
19. Certificate of Appreciation, ICBIM 2013, International Society of Universal Research in Science, Pakistan, 2013
20. Certificate of Attendance, Workshop on Intuitive Image analysis with ENV15.0, organized by Geoinformatics Center AIT Bangkok on May 2-3, 2012.
21. Certificate of Training, Winter School in Water Quality and Testing, Jordan, 2-9 April, 2011
22. Certificate of Attendance, 34th National Symposium on Remote Sensing of Environment, Sydney, 2011
23. Certificate of Participation, Learning from Japan’s Experience on Urban Sustainability, Organized by Hosei University, Japan, 1-12 August, 2011
24. Presentation on 34th International Symposium on Remote Sensing of Environment Sydney 2011 organized by Sydney Convention & Exhibition Centre, Sydney, Australia on April 10-15, 2011.

25. Certificate of Appreciation, AIT Career Center, Thailand, 2010
26. Certificate of Oral Presentation, 3rd International conference of Geoinformation Technology, Thailand, 2010
27. Certificate of Poster Presentation, International Symposium & Exhibition on Geo-Information, 2010, Malaysia
28. Certificate of Participation, 2nd International conference on Geoinformation Tehcnologies for Natural Disaster Management, & Rehabilitation, Thailand, 2009
29. Training Certificate, International Training course under ProGENY Project, Italy, 2008
30. Certificate of Appreciation on achieving First Position in Class, University of Agriculture, Faisalabad, Pakistan, 2005
31. Certificate of Participation, Symposium of Pedagogy, NUCES-FAST, Pakistan
32. 2nd annual Business & Technology Conference, NUCES-FAST Isb, Pakistan
33. Certificate of Recognition, 2nd Intra FAST E-gaming competition, Pakistan,

LIST OF SELECTED PRESENTATIONS

1. Talk on "Applied Research Using Geospatial Dataset in Achieving Sustainable Solutions" during 2023 Belt and Road Forum on Digital Earth (BRFonDE 2023) China
2. Invited talk at "Pakistan's first BSide Cyber Security Conference" during 7-8 November 2020.
3. Invited talk at "Discussion on Eco-System of Faisalabad - Challenges & Opportunities" organized by Askolay on 8th October 2020.
4. Invited talk at "Tech Education and COVID-19" organized by Startup Grind on 22nd August 2020.
5. Invited talk at Consultative Meeting for eHealth Strategic Planning on "Vision and Key Components for eHealth" organized by WHO, Govt. of Pakistan and COMSATS Institute of I.T. during 01-May, 2014 to 02-May, 2014.
6. Invited talk at International Seminar on "Climate Change Adaptation Strategies to Ensure Food Security" held at University of Agriculture, Faisalabad from Jan 16-17, 2014 organized by AgMIP, Pakistan and Washington State University.
7. Resource person for World Health Organization (WHO) for conducting training on "Use of Innovative Statistical Tools for Data Analysis (SPSS, GIS & SARA) at Institute of Public Health, Lahore from January 21-23, 2014.
8. Invited talk on "Geo-Information technologies for social issues" at 11th International Conference on Frontiers of Information Technology (FIT) held at Islamabad, Pakistan from (16-18 Dec 2013) supported by IEEE CS society.
9. Oral presentation on "Remote Sensing & GIS tools for Public Health" at 4th International eHealth conference held at Karachi, Pakistan during (22-23 Nov 2013)
10. Invited talk on "Geo-spatial technologies for monitoring climate and environment" at 34th ACRS Summer School held at Bali, Indonesia during (25-31 Oct 2013).

11. Oral presentation on “Identification of urban and peri-urban favorable breeding habitat for *Aedes* mosquitoes” at 2nd symposium on advances in geospatial technologies for health at Arlington, VA, USA during (25-30 August 2013).
12. Oral presentation on “Crop identification, forecasting, and stress detection using Hyper Spectral Remote Sensing” Sydney Convention and Exhibition Center (10-15 April 2011), Australia.
13. Oral presentation on “Role of Remote Sensing to extract water quality parameters and its management” organized by EXCEED (Technische Universitat Braunschweig Germany) and Mutah University Jordan, sponsored by DAAD on 6th April 2011 Aqaba, Jordan.
14. Oral presentation on “Remote sensing image analysis for the risk assessment of Dengue fever and extraction of favorable ecology for mosquito breeding” on 7th March 2011 at National Institute of Informatics (NII) Tokyo, Japan.
15. Oral presentation on “Disaster risk mapping & management using wireless technologies for secure and fast communication” on October 2010 at Chiang Mai, Thailand, sponsored by Pacific Disaster Canter & Digital Globe International Inc.
16. Poster presentation on “Connecting Government & Citizen through Ubiquitous GIS: Environment & health issues in urban population” on 27th July-2010 Malaysia, organized by GIS Development & sponsored by ESRI, Trimble & ERDAS.
17. Challenges and potential of hyperspectral remote sensing to identify rice varieties, Department of Agricultural and System Engineering, AIT Thailand.
18. Presentation on “Vector-borne diseases and role of Remote Sensing & GIS, current & future research perspective” for Outreach International Program to Participant from Department of Remote Sensing, Faculty of Go information Science & Engineering, University Technology of Malaysia on 16th December-2009.

SELECTED PUBLICATIONS

1. Usman Ghous, Muhammad Shahzad Sarfraz, Muhammad Ahmad, Chenyu Li, Danfeng Hong, “(2+1) D Extreme Xception Net for Hyperspectral Image Classification”, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Earth and planetary sciences PP (99):1-14, (IF:5.5), January 2024.
2. Rabia Maqsood, Paolo Ceravolo, Muhammad Ahmad, & Muhammad Shahzad Sarfraz, “Examining students’ course trajectories using data mining and visualization approaches”, *International Journal of Educational Technology in Higher Education*, Springer Netherlands, (JCR IF=7.611), October 2023.
3. Ariyo Oluwasanmi, Muhammad Umar Aftab, Zhiguang Qin, Muhammad Shahzad Sarfraz, Yang Yu, and Hafiz Tayyab Rauf, “Multi-Head Spatiotemporal Attention Graph Convolutional Network for Traffic Prediction”, *Multidisciplinary, MDPI & Switzerland*, (IF. 3.847), April 2023.
4. Momna Javaid, Muhammad Shahzad Sarfraz, Muhammad Umar Aftab, Qamar uz Zaman, Hafiz Tayyab Rauf, and Khalid A. Alnowibet, “WebGIS-Based Real-Time Surveillance and Response System for Vector-Borne Infectious Diseases”, *International Journal of Environmental Research and Public Health*, *Multidisciplinary, MDPI & Switzerland*, (IF. 4.614), 2023.

5. Mahnoor Khalid, Muhammad Shahzad Sarfraz, Uzair Iqbal, Muhammad Umar Aftab, Gniewko Niedbala, and Hafiz Tayyab Rauf, "Real-Time Plant Health Detection Using Deep Convolutional Neural Networks", Agriculture, Multidisciplinary, MDPI & Switzerland, (IF. 3.408), 2023.
6. Samia Aziz, Muhammad Shahzad Sarffraz, Muhammad Usman, Muhammad Umar Aftab, and Hafiz Tayyab Rauf, "Geo-Spatial Mapping of Hate Speech Prediction in Roman Urdu", Mathematics, Computer Science, MDPI & Switzerland, (IF. 2.595), 2023.
7. M.H. Musaddiq, M.S. Sarfraz, N. Shafi, R. Maqsood, A. Azam, M. Ahmad, "Predicting the Impact of Academic Key Factors and Spatial Behaviors on Students' Performance", MDPI, Switzerland, (IF. 2.838), 2022.
8. Aftab, M. U., Hamza, A., Oluwasanmi, A., Nie X., Sarfraz, M. S., Shehzad, D., Qin, Z., & Rafiq, A. Traditional and Hybrid Access Control Models: A Detailed Survey. Security and Communication Networks, 2022.
9. Khan, M. A., Nasralla, M. M., Umar, M. M., Iqbal, Z., Rehman, G. U., Sarfraz, M. S., & Choudhury, N. (2021). A Survey on the Noncooperative Environment in Smart Nodes-Based Ad Hoc Networks: Motivations and Solutions. Security and Communication Networks, 2021.
10. Jalbani, K. B., Yousaf, M., Sarfraz, M. S., Jamili Oskouei, R., Hussain, A., & Memon, Z. Poor Coding Leads to DoS Attack and Security Issues in Web Applications for Sensors. Security and Communication Networks, 2021.
11. Memon, Z., Aghian, H., Sarfraz, M. S., Hussain Jalbani, A., Oskouei, R. J., Jalbani, K. B., & Hussain Jalbani, G. (2021). Framework for Educational Domain-Based Multichatbot Communication System. Scientific Programming, 2021.
12. Tariq, H., Hanif, M. K., Sarwar, M. U., Bari, S., Sarfraz, M. S., & Oskouei, R. J. Employing Deep Learning and Time Series Analysis to Tackle the Accuracy and Robustness of the Forecasting Problem. Security and Communication Networks, 2021.
13. Ali, H., Rafique, M. Z., Sarfraz, M. S., Malik, M. S. A., Alqahtani, M. A., & Alqurni, J. S. A novel approach for solving travelling thief problem using enhanced simulated annealing. PeerJ Computer Science, 7, e377.
14. Xiao, H., Ali, S., Zhang, Z., Sarfraz, M. S., Zhang, F., & Faisal, M. Big Data, Extracting Insights, Comprehension, and Analytics in Cardiology: An Overview. Journal of Healthcare Engineering. Hindawi.
15. Ahmad, M., Khan, A. M., Mazzara, M., Distefano, S., Ali, M., & Sarfraz, M. S. A Fast and Compact 3-D CNN for Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Letters.
16. Khan, M. A., Sarfraz, M. S., Alhaisoni, M., Albeshar, A. A., Wang, S., & Ashraf, I. StomachNet: Optimal Deep Learning Features Fusion for Stomach Abnormalities Classification. IEEE Access.
17. Umair, A., Sarfraz, M. S., Ahmad, M., Habib, U., Ullah, M. H., & Mazzara, M. Spatiotemporal Analysis of Web News Archives for Crime Prediction. Applied Sciences, 10(22), 8220.
18. Khan, M. A; Seifedine, K.; Majed A.; Yunyoung N.; Yudong Z.; Venkatesan R.; and Sarfraz, M. S. "Computer-Aided Gastrointestinal Diseases Analysis From Wireless Capsule Endoscopy: A Framework of Best Features Selection. IEEE Access 8(2020), 132850-132859.

19. Ahmad, M.; Mazzara, M.; Raza, R.A.; Distefano, S.; Asif, M.; Sarfraz, M. S.; Khan, A.M.; Sohaib, A. Multiclass Non-Randomized Spectral–Spatial Active Learning for Hyperspectral Image Classification. *Appl. Sci.* 2020, 10, 4739.
20. Tariq M. Imran., Shahzadi T., Ali M. Natash, Sarfraz M. S. Hussain Akhtar, Imran M. Pricop Emil, Candia O, Paraschiv N. “Combination of AHP and TOPSIS methods for the ranking of information security controls overcome its obstruction under fuzzy environment.” *Journal of Intelligent & Fuzzy Systems*, Vol. 38, no.5, pp.6675-6088, (2020).
21. Ashraf, M. Waseem., Manzoor Saher. Sarfraz M. S. Waseem M. Faisal., Ali Basic., Akhlaq M., Rujita C., Pupa Alex., “Fabrication and fuzzy analysis of AAO membrane with manipulated pore diameter for applications in biotechnology”. *Journal of Intelligent & Fuzzy Systems*, vol. 38, no. 5, pp. 5857-5864, (2020)
22. Tariq M. Imran., Shahzadi T., Ali M. Natash., Sarfraz M. S. Hussain Akhtar, Imran M. Pricop Emil, Candia O, Paraschiv N. “Intelligent data analysis and applications & smart vehicular technology, communications and applications” *Journal of Intelligent & Fuzzy Systems*, vol. 38, no. 5, pp. 5933-5947, (2020).
23. Khan, A., Shoaib, U., & Sarfraz, M. S. (2019). A Comprehensive Study of Modern and High-Speed TCP-Variant in Linux Kernel: TCP CUBIC. *The International Arab Journal of Information Technology*.16(6). 1028-1035.
24. Akram, A., Sarfraz, M. S. & Shoaib U. (2019). HLA Run Time Infrastructure: A Comparative Study. *Mehran University Research Journal of Engineering & Technology*. 38(4), 961-972.
25. Aurangzeb K., Haider I., Khan M.A., Saba T., Sarfraz, M.S., (2019). Human Behavior Analysis based on Multi-types Features Fusion and Von Nauman Entropy based Features Reduction. *Journal of Medical Imaging and Health Informatics*. 9(4), 662-669.
26. Hassan, J., Sarfraz, M. S. (2019). Impact of suicide bombings in Pakistan using spatial and temporal analysis. In *Seventh International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2019)* (Vol. 11174, p. 111740S). International Society for Optics and Photonics.
27. Shakoor A., Ahmed A., Sarfraz, M.S. (2018). Security Technique in Mobile Clouds to Ensure Malware Prevention. *Indian Journal of Science and Technology*. *Indian Journal of Science and Technology*, 11(31).
28. Naz, N. A., Shoaib, U., & Sarfraz, M. S. (2018). A Review on Customer Churn Prediction Data Mining Modeling Techniques. *Indian Journal of Science and Technology*, 11(27).
29. Naseem S.Z., Nazir S., Sarfraz, M.S., Shoaib U., Altaf A. (2018). Extended Tiny Encryption Algorithm Equipped with Arabic Script (AXTEA). *Pakistan Journal of Science*, 70(3).
30. Rana, M. F., Shoaib, U., Sarfraz, M. S. (2018). Ergonomics Estimation and Dimensions of ATM Usage in Pakistan. *Indian Journal of Science and Technology*. *Indian Journal of Science and Technology*, 11(24).
31. Baig, S., & Sarfraz, M. S. Spatio-temporal Analysis to Predict Environmental Influence on Malaria. *Proceedings of ISPRS TC III Mid-term Symposium “Developments, Technologies and Applications in Remote Sensing held in Beijing, China during May 7-10, 2018.*

32. Rana, I. A., Aslam, S., Sarfraz, M. S., & Shoaib, U. (2018). Analysis of Query Optimization Components in Distributed Database. *Indian Journal of Science and Technology*, 8(1).
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EVENTS ORGANIZED AND PARTICPATED

Events Attended as Chief Guest

1. Session Chair for Digital Earth Science and Technology Innovation during 2023 Belt and Road Forum on Digital Earth (BRFonDE 2023) China December 6 – 8, 2023
2. College Fair 22 - Beacon House Faisalabad November 10, 2022
3. USAID Open Silicon Valley Conference January 25, 2023
4. Annual Prize Distribution Ceremony of Cadet College 24 February 2023

Events Attended as Keynote Speaker

1. Keynote Speaker in Garrison University November 22, 2023

Events Attended as Conference Co-chair

1. Conference at MCS 15-16 March 2023

Events Attended as External Expert

1. External Examiner at Riphah University Faisalabad November 11, 2022
2. Selection Board Meeting at Government College University Faisalabad December 1, 2022
3. External Examiner at KFUEIT Dec-22 & Jul-23
4. BoS Meeting KFUEIT August 8, 2023

Events Attended as Guest of Honor

1. LUMS Education Fair November 1, 2022
2. Summit on Artificial intelligence at UAF November 2, 2023
3. Divisional Public School (DPS) Event November 2, 2023
4. COMTECH at Military College of Signals March 16, 2023
5. Punjab Universities Innovation Expo November 20, 2023
6. Faisalabad Literary Festival (FLF) November 24, 2023

Events Hosted as Campus Director

1. FAST NUCES 70th Convocation	November 13, 2022
2. Data Analysis and Visualization using Data Studio	January 24, 2023
3. Daira 2023	10-12 March 2023
4. HEC Workshop	14 March 2023
5. MOU Signing With Akhuwat Foundation	March 20, 2023
6. Job Fair 2023	March 22, 2023
7. Visit of German Delegate at CFD Campus	23 September 2023
8. Online ICPC Style Competitions Meeting	September 22, 2023
9. International conference on IT and Industrial Technologies (ICIT 2023)	9-10 October 2023
10. 76th Convocation 2023	November 18, 2023
11. Campus France Visit at CFD Campus	November 29, 2023

MEMORANDUM OF UNDERSTANDING SIGNED

1. SI-UK Pakistan Consultants	17-Feb-24
2. Crewlogix Technologies Software	18-Oct-23
3. Fastdev Software	10-Aug-23
4. Faisalabad I.T Companies Organization - FITCO Software	16-Feb-23
5. MoU with Cewlogix	18-Oct-23
6. MoU Signing with PIPC	19-Oct-22
7. Qbatch Software	07-Dec-22
8. MTM Manufacturing	30-Nov-22
9. Cogent Labs Software	23-Nov-22
10. Game Train IT & Trainings	01-Nov-22
11. Netixsol Blockchain/Technology Services	17-Oct-22
12. Bloctech Solutions Blockchain/Technology Services	15-Sep-22
13. Technupur IT Services	25-Jul-22
14. Key & Emms (Pvt.) Ltd. Manufacturing	03-Feb-22
15. Content Arcade Software	17-Nov-21
16. POA Solutions IT Training & Solutions	10-Nov-21
17. Systems Limited Software	03-Nov-21

18. DevNation IT Training	26-Oct-21
19. OZI Group Software	12-Oct-21
20. EPTeck Technologies Pvt. Ltd.	29-Jul-21

DEVELOPMENT PROJECTS COMPLETED IN CFD CAMPUS

Year	Description	Budget
2020-21	Separate Feeder Line from Grid, Grass cultivation in Cricket Ground, Construction of Students' Facilitation Center	351.02
2021-22	Construction of Girls' Hostel, Installation of Lift, Solar Parking Shed, Futsal Ground, Construction of stage, Street Lights Installation, Paver Work, Medical Center, Fitness Center	1239.45
2022-23	Construction of Data Science and AI Block, Girls Hostel Allied Facilities, Street Lights Installation, Construction of Panel & Sync Electric Room, Maintenance and Technician Workshop, Boundary Wall on New Land	544.40
2023-24	construction of two new floors on Admin block, classrooms steps, construction of roads between hostels	1372.30
Total		3507.17 Million

COUNTRIES VISITED

Country	From	To	Nature	Purpose
China	01-12-2023	10-12-2023	Official	Conference
Cyprus	18-03-2019	25-03-2019	Official	Conference
China	06-05-2018	11-05-2018	Official	Conference
Malaysia	13-10-2018	25-10-2018	Official	Conference
UAE	03-05-2011	06-05-2018	Official	Collaboration visit
India	04-12-2014	12-12-2014	Official	Conference
Thailand	23-01-2008	23-08-2013	Official	Doctoral Degree
Indonesia	24-10-2013	01-11-2013	Official	Keynote speaker
USA	22-08-2013	07-09-2013	Official	Conference
Sri Lanka	06-11-2012	10-11-2012	Official	Conference
Australia	10-04-2011	24-04-2011	Official	Conference
Jordan	31-03-2011	08-04-2011	Official	Workshop
Japan	22-08-2010	16-10-2010	Official	Visiting researcher

BIBLOGRAPY

Dr Shahzad Sarfraz has been an active player in Computer Science and Geospatial Technologies. He leads the core thematic areas of ICT tools for Health, Agriculture, Disaster management, Location-based systems & its applications for Environment. His focus areas are the use of web-based and open-source tools related to Remote Sensing & Geographical Information System. Dr Shahzad has contributed to 60 journal and conference papers, along with developing tools for organizational needs and readiness assessment, and evaluation of eHealth initiatives. Dr Shahzad had vast exposure in planning, initiating, and supervising the Computer Science Department and Evening Programs of the University of Gujrat as well as catalyzing and coordinating the research activities of the department.

Dr. Shahzad Sarfraz is serving as a Professor in the computer sciences department and Director of the Chiniot-Faisalabad campus of the university as well. Before joining the FAST-National University of Computer and Emerging Sciences, he served as Associate Professor, Chairperson of Computer Science, and Director of Evening Programs at the University of Gujrat and at COMSATS Institute of Information Technology as well as at NUCES as Assistant Professor in the Department of Computer Science. He was Ph.D scholar and teaching/research associate at the Asian Institute of Technology (AIT), Thailand, and a visiting researcher in the Digital Image Processing lab at the National Institute of Informatics (NII), Tokyo, Japan. He has an extensive background and interest in using Geospatial technologies to strengthen and integrate health systems. He contributed to many seminars/workshops, organized at national and international levels, which supported collaborative research in ten countries. He is member of numerous international societies such as IEEE, ACM, ISPRS, Canadian Remote Sensing, International Association of Chinese Professionals in GIS, Telecoms Sans Frontiers for Emergency Response in Asia-Pacific, Geological Society of America, International Medical Geological Association, eHealth Association of Pakistan and American Telemedicine Association, etc. Dr. Shahzad is also a resource person of the World Health Organization (WHO) and Pak One Health Alliance, Pakistan for conducting capacity-building workshops for analytical skills & use of information.