Muhammad Bilal Shoaib Khan, Ph.D.

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PCD No. 14537
PEC Registered Engineer. Electro-30448

1. SHORT BIO

I am currently employed as a Professor in the Department of Computer Science at Green International University Lahore. I completed my Ph.D. from the International Islamic University in Islamabad, Pakistan, in 2007, through a scholarship awarded by the Higher Education Commission of Pakistan under the MS Leading to PhD program. In 2010, I also obtained my M.Phil. degree from the International Islamic University Islamabad. For my undergraduate studies, I pursued my BS degrees at the Comsats University Islamabad Lahore Campus. Over the past 12 years, I have been actively involved in teaching computer science and engineering courses to both graduate and undergraduate students. During this time, I have successfully supervised more than 42 M.Phil. students. Currently, I am mentoring 5 Ph.D. scholars and 6 M.Phil. scholars in their research pursuits.

I have made significant contributions to the field of research, having published over 55 research articles in reputable international journals and conferences. The cumulative impact factor of my publications stands at 75+. My research interests primarily revolve around Machine Learning, Image Processing & Medical Diagnosis, Computational Intelligence, and Artificial Intelligence.

Professional Summary

1. **12 Years of Teaching Experience:** I have more than 12 years of teaching experience and taught various courses at the undergraduate and graduate levels as mentioned in Section 6 (a). Moreover, I also designed the curriculum of various courses for Computer Science, Software Engineering, and Information Technology degrees at both undergraduate & graduate levels.
2. **Industrial Experience:** I was working as a web developer in Topspot for more than 03 years.
3. **Supervision Experience:** I am currently supervising **5** Ph.D. theses and **5** MPhil. thesis in the Computer Science department at Riphah International University, Pakistan. So far, I have successfully supervised **42+** M.Phil students, as mentioned in the experience section.
4. **Participation in Thesis and Oral Examination Committees:** I have participated in 10 Ph.D., 20+ M.Phil/MS, thesis and oral examination committee members.

5. **Keen Interest in Experimentation:** I have a great passion for experimentation—especially on real systems and software services—and therefore I strongly believe that my interest in practical work along with my academic research and industry background experience and expertise will bring a competitive advantage to the project.
6. **2+ Years of Software Industry Experience**: I also have two years of professional software development experience.
7. **Accumulated JCR-IF=75+:** An accomplished researcher in computational intelligence/soft computing, machine learning, image processing, digital communication, and signal processing.
8. **HEC Approved Supervisor:** Higher education communication Pakistan approved supervisor in physical sciences and artificial intelligence.
9. **Member:** Pakistan Engineering Council, Pakistan (ELECTRO/30448).
10. **H-index: 16, I-index: 25 and Total Citations: 870+**

2. ACADEMIC/PROFESSIONAL PARTICULARS

(a) Field of Specialization:

- Computational Intelligence, Machine & Deep Learning, Digital Communication & Signal Processing.
- Kernel and Fractional Algorithms.

(b) Academic Qualifications

Ph.D., Electronics Engineering *2017*

Specialization: **Signal Processing Algorithms**

International Islamic University, Islamabad, Pakistan.

Thesis: Fractional and kernel methods with their applications to nonlinear systems.

MS, Electronic Engineering *2010*

International Islamic University, Islamabad, Pakistan.

Thesis: A Unified Method for the Stabalization and Tracking of Single Link Robotic Arm.

BS, Computer Science *2007*

Comsats University Islamabad, Lahore Campus, Pakistan.

Project: Management Infortmation System for a Pharmacy.

FSc., Pre-Engineering *2007*

Pakistan International Public School and College.

Abbottabad, Pakistan.

c) Academic Acheivements and Awards

1. HEC Merit scholarship (MS leading to PHD Batch-4).
2. Merit Scholarship in Comsats Batch 2002.

5. EXPERIENCE

a) Academic Positions Held

Professor *March. 2024 till date*
Department of Computer Science Green International University Lahore.

Associate Professor *March. 2022 to March 2024*
Department of Information Technology Akhuwat College University Lahore.

Assistant Professor *April. 2018 to March 2022*
Minhaj University Lahore.

Assistant Professor *Oct. 2016 to Dec. 2018*
Global Institute Lahore.

Assistant Professor *Sep. 2012 to Sep. 2016*
Iqra college of Technology, International Islamic University Islamabad.

b) Industrial Experience Held

Web Developer *Sep. 2007 to Sep. 2012*
TopSpot.

c) Administrative Positions Held

Professor/ Dean *March. 2024 to till date.*

Department of Computer Science, Green International University Lahore

Director Research *June. 2023 to March 2024.*
Akhuwat Institute Lahore.

Head of Department (I.T) *April. 2022 to Jan.2023*
Akhuwat Institute Lahore.

Head of Department (CS)/Associate Dean *Jan. 2018 to March.2022*
Faculty of Computer Science and Information Technology.
Minhaj University, Lahore, Pakistan.

Acting Dean *May. 2017 to Dec.2018*

Faculty of Computer Science and Information Technology.
Global Institute Lahore.

d) Membership in Professional Bodies

1. Member of Pakistan Engineering Council, Registered Engineer (**ELECTRO/30448**).
2. HEC, Pakistan Ph.D. Approved Supervisor (Artificial Intelligence).
3. IEEE Professional Member(2020).
4. IEEE Professional Member(2021).
5. Member of Center of Research in maritime Affairs. (2021,2022).
6. Member of Center of Research and Innovations in Modeling and Simulations.
7. Member of the Technical Review committee of Asia Con. Pakistan.
8. Member of the IEEE Communication Society.(2021).
9. Intitute of Signals Systems and Soft Computing. (ISSS)
10. Member technical in Safa Juices. Kabirwala, Pakistan.
11. Senior Consultant Engineering Services BITKNOX.

e) Professional/Industrial Positions Held

Developer *Oct. 2007 to Oct. 2012*

TopSpot, Lahore, Pakistan

6. TEACHING

a) Summary of Selective Courses Taught

Course Title	Place Taught	Level
Fuzzy and Neural Networks	Minhaj University, Lahore	Graduate
Recent Trends in Computing	Green International University	Graduate
Adv. Human Computer Interaction	Green International University	Graduate
Computational Intelligence	Minhaj University, Lahore	Graduate
Research Methodology	Minhaj University, Lahore	Graduate
Machine Learning	Minhaj University, Lahore	Graduate
Soft Computing	NCBA&E	Graduate
Advanced Analysis of Algorithm	NCBA&E	Graduate
Research Methods	NCBA&E	Graduate
Image Processing	NCBA&E	Senior Level Undergraduate
Information Retreival	GIL	Senior Level Undergraduate
Comp.Org. and Architecture.	Minhaj University Lahore.	Senior Level Undergraduate
Object-Oriented Programming	ISRA University, Islamabad	Senior Level Undergraduate
Comp. Org. and Assembly	Akhuwat College University	Senior Level Undergraduate
Comp. Org. and Design.	Akhuwat College University	Senior Level Undergraduate
Probability and Statistics.	Akhuwat College University	Senior Level Undergraduate
Artificial Intelligence	Minhaj University Lahore	Senior Level Undergraduate

b) Research Students Supervised/Trained

c)

Sr. No.	Level	Number of Trainees
1.	Master Students (MS/M.Phil. Supervision)	55+
2.	Undergraduate Students (BS/MSC Supervision)	10+

Participation in Thesis and Oral Examination Committees

Sr. No.	Level	Number of Examinations
1.	Ph.D. Students	10+
2.	Master Students (MS/M.Phil.)	20+
3.	Undergraduate Students (BS/MSC/MSC)	20+

d) Selective List of Supervision

- (MSCS) "An Expert System Design for Analyzing Cardiovascular Disease Using Machine Learning Techniques.".
- (MSCS) "Implementation of stress detection using Images.".
- (MSCS.) "Blind Channel Equalization Using Fractional Least Mean Square".
- (MSCS) "Fuzzy Based System for the Treatment of Tuberculosis.".
- (MSCS) "Fuzzy Based Adaptive Step size Least Mean Square Algorithm for Time Series Prediction.".
- (MSCS) "Modelling and optimization of Lung Cancer Prediction Using MultiLayered Fuzzy Expert system".
- (MSCS) "Clinical Support system for the Diagnosis of Coronary Artery Disease.
- (MSCS) "Intelligent Covid19 prediction empowered with convolution neural Networks.".
- (MSCS.) "A Heuristic computational approach-based spectrum sensing in the presence of Hostile Users".
- (MSCS) "A combination of enhanced watershed algorithm with SVM phenomenafor liver cancer".
- (MSCS) "Multiuser detection in wireless communication using genetic algorithm and enhanced particle swarm optimization.".
- (MSCS) "Predicting Radical Behavior via opinion Mining".
- (MSCS) "Develop a smart system for diagnosis of coronary artery diseases using fuzzy inference system".
- (MSCS) "Detection of Covid-19 symptoms by deep extreme machine learning".
- (MSCS) "An effective intrusion detection approach in wireless Ad-Hoc Networks using Machine Learning".
- (MSCS) "Fusion based classification of covid -19 using evolutionary methods".
- (MSCS) "Artificial intelligent internet of things enabled traffic congestion control System

using deep extreme machine learning".

- (MSCS) "Fusion based Traffic congestion control using Deep Learning Technique".
- (MSCS.) "Privacy and Security issues in wireless ad-hoc Networks".
- (MSCS.) "Identification of Mangos Quality Using Convolution Neural Networks".
- (MSCS) "A Neural Network Based Soft Decision Fusion Scheme in Cognitive Internet of Things Networks with Malicious users".
- (MSCS) "Intelligent Covid-19 prediction Empowered with CNN.".
- (MSCS) "Identification of citrus fruits using CNN.".
- (MSCS) "Intelligent prediction and evaluation of Roads Using Convolution Neural Networks".
- (MSCS) "Artificial Intelligence Based Approach for the Prediction of Effective COVID-19 Vaccination".
- (MSCS) "A Neural Network Based Soft-Decision Fusion Scheme in cognitive Internet of Things Networks with Malicious users".
- (MSCS) "Early Diagnosis of Brain Tumor Using Fused Transfer Learning".
- (MSCS) "Classification of five varieties of Rice variants using Deep Learning".

e) Ph.D. Supervision

- (Ph.D.) Muhammad Sajid Farooq (Reg. # 2193398), "Blockchain Based Intrusion Detection Scheme in Heterogeneous Network Empowered with Fused Machine Learning Approaches.".

f) Training

1. Quality of Education and Training Workshop, Minhaj University Lahore, 1 day.
2. How to Improve the Teaching Skills, Akhuwat College University Lahore.
3. Maritime Affairs. Minhaj University Lahore Pakistan.

5. RESEARCH

a) Selected Research Areas

- Computational Intelligence
- Machine & Deep Learning
- Signal Processing
- Smart City (Smart Health, Smart Traffic Control System).

b) Publications/Citations Data

Sr. No	Type of Publication	Number of Publications
1	Total Journal Articles (Accepted & Published)	37
2	Total IEEE Transactions Articles (Under Review)	03
3	Total Journal Submitted Articles	04
4	Total Conference Articles (Accepted & Published)	20
5	Total Conference Submitted Articles	04
	Total	**68**
	Total Impact Factor (Published JCR-IF)	**79+**

Sr. No	Citation Source		Number of Citations
1	Google Scholar		870+
	a) H-Index b) I-Index	16 25	
2	Scopus		70+
	a) H-Index	14	

c) Participation in Regional & International Conferences

1. 2nd International Conference on Computer Science & Allied Technologies, LGU, Lahore, Pakistan, 27-28 Nov. 2019.
2. 1st National Conference on Computer Science and Information Technology (NCCSIT) Lahore, Pakistan, 3-4 May 2017.
3. 5th National Conference on Computer Science and Information Technology (NCCSIT) Lahore, Pakistan, 24-25 Aug 2021.
4. International Multidisciplinary Research Conference on Global Prosperity through Research & Development (IMRC-2018), Peshawar, Pakistan, October 9th - 11th 2018.
5. 2nd International Conference on Emerging Trends in Engineering, Management, and Sciences (ICTEMS-2016), Lahore, Pakistan.
6. 1st IEEE International Conference on Intelligent Systems Engineering 2016, Islamabad, Pakistan, 15-17 January 2016.
7. 3rd International Conference on Engineering & Emerging Technologies (ICEET-2016) Conference, Lahore, Pakistan 7-8 April 2016.
8. 16th IEEE International Bhurban Conference on Appied Science and Technology (IBCAST), Islmabad.
9. 17th IEEE International Bhurban Conference on Appied Science and Technology (IBCAST), Islmabad.

6. SERVICE

a) Membership in Selective Conference Committees

1. Guest of honor at 2nd International Conference in Computer Science and Allied Technologies (ICCSAT), November 27-28, 2019 at Lahore Garrison University, Lahore
2. Pakistan.Keynote Speaker of 5th National Conference on Computer Science and Information Technology (NCCSIT) Lahore, Pakistan, 24-25 Aug 2021.
3. Session Chair and Keynote Speaker of 2nd International Conference on Computer Science & Allied Technologies, LGU, Lahore, 27-28 Nov. 2019.
4. Distinguished guest in IEEE National Workshop on BIG DATA and technology, Department of Electrical Engineering, University of Punjab on 14 November, 2019.
5. Session Chair, 8th international conference on Energy Conversation and Efficiency.
6. Session Chair, International Conference on Energy Conservation and Efficiency (ICECE 2025).
7. Session Chair, 19th IEEE International Conference on Open-Source Systems and Technologies (ICOSST 2025).
8. Member Technical Committee,

b) Service as Reviewer

1. EAI Endorsed Transactions on Scalable Information Systems, ISSN: 2032-9407 (Print), BELGIUM, **ISI indexed**.
2. Sensors MDPI, ISSN: 1424-3210 (print), ISSN: 1424-8220 (online), 2021, ISI indexed **Impact Factor: 3.675, Q1**.
3. Computers, Materials & Continua (CMC), ISSN: 1546-2218 (print), ISSN: 1546-2226 (online), 2021, ISI indexed **Impact Factor: 3.79, Q1**.
4. IEEE Access, ISSN: 2169-3536 (Print) ISSN: 2169-3536 (Online), ISI Indexed, **IF= 4.098, Q1**.
5. International Journal of Advanced and Applied Sciences, ISSN: 2313-626X, Taiwan, China, [**ISI Indexed**].
6. Bulletin of Electrical Engineering and Informatics. ISSN: 2089-3191, e-ISSN: 2302-9285. **IF= 0.358.**
7. Security and Communication Networks. ISSN: 1939-0122. **IF=2.31**
8. Bulletin of Electrical Engineering and Informatics (**BEEI**), ISSN: 2089-3191, e-ISSN: 2302-9285

c) University Services

Minhaj Univerity Lahore, Pakistan.

June. 2018 to March 2022

Member Board of Faculty of Computer Science and Information Technology

Membership of Committees and Boards, @ Departmental Level

- Board Of Faculty
- Board of Studies
- Academic Review Committee
- Admission Committee for MS (CS)
- Research Ethical Committee

Global Institute Lahore, Pakistan

Nov. *2016 to Dec. 2018.*

Membership of Committees and Boards, @ Departmental Level

- Board of Studies
- Academic Review Committee
- Incharge Main Campus Activities and day today Matters.

d) Society Services/Memberships

1. Member Academic Council, Green Interational University Lahore.
2. Member BOASR, Green International University Lahore.
3. Member BOASR, Minhaj University Lahore, June 2018 – Dec 2021.
4. Member of Islamians Engineering Society 2008 – 2011.
5. Member of the Faculty Board 2018 – 2021.
6. Member of the Review Panel of Graduate Studies. Virtual University, 2021-till present.

7. EXTRA CURRICULUM AWARDS & ACHIEVEMENTS

1. Successfully Organized the IEEE Robotics Event in Minhaj University. Sept 2020.
2. Played as a Football player in IIU team from Sept 2009 - Aug 2010.
3. Successfully Organized the 03 Months workshop of Artificial Intelligence sponsored by Samsung Pakistan in Akhuwat College University.

8. SKILLS & EXPERTISE

- **Programming Languages:** C, C++, VC++, Assembly language (MASM), LINUX (gedit), MATLAB, Python.
- **Web development:** PhP, Joomla, Wordpress.
- **Graphic Tools:** Adobe Photoshop.
- **Databases:** Oracle, MS Access, SQL Server 2005, SQL Server 2019.
- **Operating Systems:** Linux, Windows.

9. LIST OF RESEARCH PUBLICATIONS & SUBMISSIONS

a) Selected Journal Publications (Up-to-date publications list is available on Google Scholar:https://scholar.google.com/citations?user=JXnlbK0AAAAJ&hl=en&oi=ao)

1. **Shoaib, Bilal**, and Ijaz Mansoor Qureshi. "A modified fractional least mean square algorithm for chaotic and nonstationary time series prediction." Chinese Physics B 23.3 (2014): 030502. DOI:10.1088/1674-1056/23/3/030502, 2022. [**IF= 1.673, ISI Indexed**].

2. **Shoaib, Bilal**. and Qureshi, I.M., 2014. Adaptive step-size modified fractional least mean square algorithm for chaotic time series prediction. Chinese Physics B, 23(5), p.050503. DOI: 10.1088/1674-1056/23/5/050503, [**IF= 1.673, ISI Indexed.**].

3. S. U. Khan, I. M. Qureshi, F. Zaman, **Bilal Shoaib**, A. Naveed, and A. Basit, "Correction of Faulty Sensors in Phased Array Radars Using Symmetrical Sensor Failure Technique and Cultural Algorithm with Differential Evolution," The Scientific World Journal, vol. 2014, Article ID 852539, 10 pages, 2014. doi:10.1155/2014/852539.[**IF=1.473, ISI Indexed**].

4. Shafqat Ullah Khan, Ijaz Mansoor Qureshi, Aqdas Naveed, **Bilal Shoaib**, and Abdul Basit, "Detection of Defective Sensors in Phased Array Using Compressed Sensing and Hybrid Genetic Algorithm," Journal of Sensors, vol. 2016, pp. 1–8, 2016. https://doi.org/10.1155/2016/6139802 [**IF=3.473, ISI Indexed**].

5. Khan, Shafqat Ullah, IJAZ QURESHI, **Bilal Shoaib**, and Aqdas Naveed. "Recovery of Failed Element Signal with a Digitally Beamforming Using Linear Symmetrical Array Antenna." *Journal of Information Science & Engineering, volume* 32, issue no. 3, 2016.. [**IF= 0.693, ISI Indexed**].

6. Ijaz Mansoor Qureshi, Hassan Haider, Fawad Zaman, and **Bilal Shoaib**. "Diagnosis of Faulty Sensors in Phased Array Radar Using Compressed Sensing and Hybrid IRLS–SSF Algorithm". Wireless Personal Communications: Volume 91, pages 383-402. https://doi.org/10.1007/s11277-016-3466-7 [**IF= 2.017, ISI Indexed**].

7. Basit, Abdul, Ijaz Mansoor Qureshi, **Bilal Shaoib**, Wasim Khan, and Aqdas Naveed Malik. "Performance Analysis of a Cognitive Phased Array Radar withOnline Tracking Capability." Wireless Personal Communications, vol. 94, 3163-3180, 2017 [**IF= 2.017, ISI Indexed**].

8. Gulzar Ahmad, Muhammad Adnan Khan, Sagheer Abbas, Atifa Athar, **Bilal Shoaib Khan**, Muhammad Shoukat Aslam, "Diagnosis Hepatitis B by Using Multilayer Mamdani Fuzzy Inference System", Journal of Healthcare Engineering, ISSN: 2040-229, E-ISSN: 2040-2309, London, England, Volume 2019, Article ID 6361318, 11 pages https://doi.org/10.1155/2019/6361318. [**IF= 1.295, ISI Indexed, Q2**].

9. M.A. Ashraf, Y.D. Khan, **Bilal Shoaib**, Muhammad Adnan Khan, Faheem Khan, and T.K. Whangbo, "A Predictor Developed for Identification of Beta-Lactamases Using Statistical Moments and PseAAC via 5-Step Rule", Computational Intelligence and Neuroscience, ISSN: 1687-5265, London, England, vol. 2021, Article ID: 8974265, pages. 11, 2021. https://doi.org/10.1155/2021/8974265. [**IF= 3.633, ISI Indexed, Q1**].

10. S. Khanum, M.A. Ashraf, A. Karim, **Bilal Shoaib**, Muhammad Adnan Khan and R. A. Naqvi. "Gly-LysPred: identification of Lysine Glycation sites in protein using position relative Features and Statistical moments via Chou's 5 step rule", Computers, Materials & Continua (CMC), ISSN: 1546-2218 (print), ISSN: 1546-2226 (online), Vol.66, No.2, pp. 2165-2181, DOI:10.32604/cmc.2020.013646, 2021. [**IF= 4.89, ISI Indexed, Q1**].

11. Nawaz, Muhammad Saqib, **Bilal Shoaib**, and Muhammad Adeel Ashraf. "Intelligent Cardiovascular Disease Prediction Empowered with Gradient Descent Optimization." Heliyon Vol.7, Issue 5. (2021): e06948 (online) DOI: https://doi.org/10.1016/j.heliyon.2021. **[IF= 3.776, ISI Indexed, Q1].**

12. **Bilal Shoaib**, Y. Javed, **Muhammad Adnan Khan**, F. Ahmad, R. Majeed, M.S. Nawaz, M.A. Ashraf, A. Iqbal, M. Idrees, "Prediction of Time Series Empowered with a Novel SREKRLS Algorithm", Materials & Continua (CMC), ISSN: 1546-2218 (print), ISSN: 1546-2226 (online), vol. 67, no. 2, pp. 1413-1427, DOI: 10.32604/cmc.2021.015099, 2021. **[IF= 4.89, ISI Indexed, Q1].**

13. Munir Ahemd, Majed Al Fayad, Shabib Aftab, **Bilal Shoaib**, Noah Sabri, Elmitwally. 'Data and Machine Learning Fusion Architecture for Cardiovascular Disease Prediction'. CMC-Computers, Materials & Continua, Vol.69, No.2, pp. 2717-2731, 2021, DOI:10.32604/cmc.2021.019013 2020. [**IF= 4.89, ISI Indexed, Q1**].

14. **Bilal Shoaib**, Atta-ur-Rehman, Muhammad Saqib Nawaz. Rahid Ahmed. Intelligent Breast Cancer diagnostic system empowered by deep extreme gradient descent optimization. MBE, Vol. 19, No. 8, pp. 7978-8002. Doi:10.3934/mbe.2022373. [**IF=2.195, ISI Indexed, Q2**].

15. Khan, Shafqatullah, Ijaz Mansoor Qureshi, and **Bilal Shoaib**. "Meta-Heuristic Cuckoo Search Algorithm for the Correction of Faulty Array Antenna". 34(4), 325–336. https://search.informit.org/doi/10.3316/informit.153230313662899 publications.muet.edu.pk. [**IF=0.6, ISI Indexed, HEC X Category**].

16. Shahan Yamin, M. Adnan Khan, **Bilal Shoaib**, "AIOT Enabled Traffic Congestion Control System Using Deep Neural Networks." EAI Endorsed Transactions on Scalable Information Systems, vol. 87, issue no. 33. 2021. http://dx.doi.org/10.4108/eai.28-9-2021.171170 [**ISI Indexed, Q3**].

17. Ifikhar Naseer, **Bilal Shoaib Khan**, Diagnosis of Heart Disease using mamdani fuzzy inference expert system. EAI Endorsed Transaction on Scalable information Syustems. Vol. 7, No. 26. 2020., http://dx.doi.org/10.4108/eai.15-1-2020.162736. [**ISI Indexed, Q3**].

18. Tariq, Ayesha, Shahan Yamin Siddiqui12, Gulnaz Safdar, Syeda Fareeha Batool Nasir, Muhammad Rehan Saleem, Waqas Ali, **Bilal Shoaib**, and Muhammad Adnan Khan. "Estimating Virtual Trust of Cognitive Social Heterogeneous and Homogeneous Networks empowered with Hierarchal Socio Fuzzy Inference System." IJCSNS 20, no. 6 (2020): 48. [**ISI Indexed**].

19. **Shoaib, Bilal**, I. M. Qureshi, I. U. Haq, and Shahid Mehmood. "Square Root Extended Kernel Recursive Least Squares Algorithm for Nonlinear Channel Equalization." Research Journal of Applied Sciences, Engineering and Technology 6, no. 13 (2013): 2423-2428.

20. Mehmood, Shahid, Z. Ullah Khan, Fawad Zaman, and **Bilal Shoaib**. "Performance analysis of the different null steering techniques in the field of adaptive beamforming." *Res. J. Appl. Sci. Eng. Technol* 5, no. 15 (2013): 4006-4012.

21. Sattar, Sobia, Shahan Yamin Siddiqui, Irfan Abbas, **Bilal Shoaib Khan**, Abdul Hannan Khan, Sana Mazhar, and Muhammad Sajid Farooq. "Cryptographic Compression Techniques along with some Penetrating Attacks and Possible Security Measures."

22. Ashraf, Muhammad Adeel, Yaser Daanial Khan, **Bilal Shoaib**, Muhammad Adnan Khan, Faheem Khan, and T. Whangbo. "βLact-Pred: A Predictor Developed for Identification of Beta-Lactamases Using Statistical Moments and PseAAC via 5-Step Rule." Computational Intelligence and Neuroscience 2021, no. 1 (2021): 8974265.

23. Siddiqui, Shahan Yamin, Inzmam Ahmad, Muhammad Adnan Khan, **Bilal Shoaib Khan**, Muhammad Nadeem Ali, Iftikhar Naseer, Kausar Parveen, and Hafiz Muhammad Usama. "AIoT Enabled Traffic Congestion Control System Using Deep Neural Network." *EAI Endorsed Transactions on Scalable Information Systems* 8, no. 33 (2021).

24. Ahmad, Munir, Majed Alfayad, Shabib Aftab, Muhammad Adnan Khan, Areej Fatima, **Bilal Shoaib**, Mohammad Sh Daoud, and Nouh Sabri Elmitwal. "Data and Machine Learning Fusion Architecture for Cardiovascular Disease Prediction." *Computers, Materials & Continua* 69, no. 2 (2021).

25. Moon, Kaleem Ullah, Shahan Yamin Siddiqui, **Bilal Shoaib Khan**, Irfan Abbas, Abdul Hannan Khan, Muhammad Sohail Irshad, and Muhammad Sajid Farooq. "Study of Applications of Artificial Neural Networks." LGURJCSIT 4, no. 2 (2020): 1-11. [HEC Y Category]. https://doi.org/10.54692/lgurjcsit.2020.0402130

26. Ehsan Elahi, **Bilal Shoaib** and Mhammad Akmal. "Time Dependent Popularity Caching Scheme for NDN Based MANETs". LGURJCSIT 5, no. 1 (2021): 39-43. [HEC Y Category] https://doi.org/10.54692/lgurjcsit.2021.0501174.

27. Irfan Abbas, Shahan Yamin Siddiqui, Munib Ahmad, Hamza Iqbal, Waqar Ahmad, Muhammad Usama Mubashir, Abdul Hannan Khan, **Bilal Shoaib**, Muhammad Adnan Khan."Text File Encryption Empowered with Context Sensitive Grammer Approach". IJCNS, Vol. 20 No. 7 pp. 1-10, 2020. [**ISI Indexed**].

28. Abbas, Irfan, Shahan Yamin Siddiqui, Munib Ahmad, Hamza Iqbal, Waqar Ahmad, Muhammad Usama Mubashir, Abdul Hannan Khan, **Bilal Shoaib**, and Muhammad Adnan Khan. "Text File Encryption Empowered with Context Sensitive Grammar Approach." *IJCSNS* 20, no. 7 (2020): 1.

29. **Bilal Shoaib**., Qureshi, I. M., Khan, S. U., & Butt, S. A. Kernel fractional affine projection algorithm. In Applied Informatics, Vol. 2, No. 1, pp. 1-14. Springer Berlin Heidelberg. DOI 10.1186/s40535-015-0015-5.

30. Taji, Khaoula, Ali Sohail, Tariq Shahzad, **Bilal Shoaib Khan**, Muhammad Adnan Khan, and Khmaies Ouahada. "An Ensemble Hybrid Framework: A Comparative Analysis of Metaheuristic Algorithms for Ensemble Hybrid CNN Features for Plants Disease Classification." *IEEE Access* (2024). [**Q1, Impact Factor 3.6].**

31. Ali, Syed Younus, **Bilal Shoaib Khan**, Abdul Hanan Khan, Muhammad Adnan Khan, Asghar Ali Shah, Sagheer Abbas, and Khan Muhammad Adnan. "Optimized Ensemble Machine-Learning-Driven Transparent Thyroid Cancer Prediction Using Explainable Artificial Intelligence." Journal of Computational and Cognitive Engineering (2025). [**Q1, Impact Factor 3.2].**

32. Walayat, Fajar, Allah Ditta, Zafar Iqbal Karmani, **Bilal Shoaib**, Tehseen Mazhar, Muhammad Adnan Khan, and Rashid A. Saeed. "Deep Learning-Based Analysis of Mammographic Images for Breast Cancer Detection Using Transfer Learning." *Healthcare Technology Letters* 12, no. 1 (2025): e70019. [**Q2, Impact Factor 1.8].**

33. **Shoaib, Bilal**, Dr Anas Bilal, Abdul Hannan Khan, Monir Abdullah Kaid, Abdulbasit Abdullah Darem, and Raheem Sarwar. "An explainable hybrid deep learning framework for precise skin lesion segmentation and multi-class classification." *Frontiers in Medicine* 12 (2025): 1681542. [**Q1, Impact Factor 3.2].**

34. **Shoaib, Bilal**, Dr Anas Bilal, Abdul Hannan Khan, Monir Abdullah Kaid, Abdulbasit Abdullah Darem, and Raheem Sarwar. " Interpretable Machine Learning Models for Beta Thalassemia Prediction: An Explainable AI Approach for Smart Healthcare 5.0." *Frontiers in Medicine* 12 (2025): 1681542. [**Q1, Impact Factor 3.2].**

35. **Shoaib, Bilal**, Dr Anas Bilal, Abdul Hannan Khan, Monir Abdullah Kaid, Abdulbasit Abdullah Darem, and Raheem Sarwar. " Prediction of β-thalassemia carrier using federated learning and Explainable AI." Accepted in *Frontiers in Medicine.* [**Q1, Impact Factor 3.2].**

36. **Shoaib, Bilal**, Dr Anas Bilal, Abdul Hannan Khan, Monir Abdullah Kaid, Abdulbasit Abdullah Darem, and Raheem Sarwar. " Prediction of β-thalassemia carrier using federated learning and Explainable AI." Accepted in *Complexity.* [**Q2, Impact Factor 3.9].**

b) Selected Conference Publications & Presentations

1. **Bilal Shoaib**, Ijaz Mansoor Qureshi, Sharjeel Abid Butt, Shafqat Ullah Khan, and Wasim Khan. "Adaptive step size kernel least mean square algorithm for Lorenz time series prediction." In Applied Sciences and Technology (IBCAST), 2015 12th International Bhurban Conference on Applied Science and Technology. pp. 218-221. IEEE.13-17 January 2015. DOI**:** 10.1109/IBCAST.2015.7058507.

2. **Bilal Shoaib**, Ijaz Mansoor Qureshi, Sharjeel Abid Butt, Shafqat Ullah Khan, and Wasim Khan. "Numerical solution of nonlinear boundary value problems in kernel space. 13th IEEE International Bhurban Conference on Applied Science and Technology. IBCAST. 12-16 January 2016. DOI: 10.1109/IBCAST.2016.7429888.

3. Khan, Shafqat Ullah, Ijaz Mansoor Qureshi, **Bilal Shoaib**, and Abdul Basit. "Correction of faulty pattern using cuckoo search algorithm and symmetrical element failure technique along with distance adjustment between the antenna array." In Applied Sciences and Technology (IBCAST), 2015 12th International Bhurban Conference on, pp. 633-636. IEEE, 13-17 January 2015. DOI: 10.1109/IBCAST.2015.7058573.

4. Khan, Shafqat Ullah, Ijaz Mansoor Qureshi, Fawad Zaman, **Bilal Shoaib**, and Kabir Ashraf. "An application of hybrid nature inspired computational technique to detect faulty element in array antenna." In Applied Sciences and Technology (IBCAST), 2015 12th International Bhurban Conference on, pp. 629-632. IEEE, 13-17 Janauary 2015. DOI: 10.1109/IBCAST.2015.7058572.

5. Basit A., Qureshi, I. M., Khan, W., Malik, A. N., & **Bilal Shoaib** "Beam pattern synthesis for a cognitive frequency diverse array radar to localize multiple targets with same direction but different ranges." 2016 13th International Bhurban Conference on Applied Sciences and Technology (IBCAST). IEEE, 12-16 January 2016. DOI: 10.1109/IBCAST.2016.7429954.

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7. Sajjad, Ghulam, **Muhammad Bilal Shoaib Khan**, Taher M. Ghazal, Muhammad Saleem, Muhammad Farhan Khan, and Muhammad Wannous. "An early diagnosis of brain tumor using fused transfer learning." In *2023 International Conference on Business Analytics for Technology and Security (ICBATS)*, pp. 1-5. IEEE, 2023. DOI: 10.1109/ICBATS57792.2023.10111263.

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9. **Bilal Shoaib Khan**, Rukkhshanda Kamran. "Classification of Rice Varieties using Convolution Neural Networks". : 2023 International Conference on Business Analytics for Technology and Security (ICBATS) IEEE, 07-08 March 2023. DOI: 10.1109/ICBATS57792.2023.10111346

10. Rasha Almajed, **Bilal Shoaib Khan**, Sohail Irshad, Ayman Bassam Nassoura "Social Media

Analytics through Big Data Using Hadoop Framework" 2023 International Conference on Business Analytics for Technology and Security (ICBATS) IEEE, 07-08 March 2023. DOI: 10.1109/ICBATS57792.2023.10111230.

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14. Tashfeen, Hafiza Khunsa Rehman, Abdul Hannan Khan, **Bilal Shoaib Khan**, Mudassar Imran, and Muhammad Adnan Khan. "Classification of Brain Tumors with MRI images Using Deep Learning Techniques." Korean Next Generation Computing Society Academic Conference (2024): 261-263.

15. **Bilal Shoaib Khan**, Traffic Congestion Control in Smart Cities using Machine Learning Techniques with Explainable Artificial Intelligence. Accepted in IEEE IntelliSecAI 2025.

16. **Bilal Shoaib Khan**, Comparative Analysis of Supervised Machine Learning Classifiers for Intrusion Detection on Heterogeneous Datasets. Accepted in IEEE AISTEMEDU-2025.

17. **Bilal Shoaib Khan**, Stacked Ensemble Learning for Air Quality Category Prediction with Interpretable Insights. Accepted in 3rd International Conference on Sustainability: Developments & Innovations (ICSDI 2026), to be held 8–12 February 2026 at Prince Sultan University, Riyadh, Kingdom of Saudi Arabia.

18. **Bilal Shoaib Khan**, Leveraging Gated Recurrent Units for Real-Time Tracking of Student Engagement in Healthcare LMS using LLM Analytics. 26th Systems and Information Engineering Design Symposium (SIEDS 2026), United States of America.

19. **Bilal Shoaib Khan**, Interpretable Diabetes Risk Prediction using SHAP-Guided Stacking Ensemble Model. 26th Systems and Information Engineering Design Symposium (SIEDS 2026) United States of America.

20. **Bilal Shoaib Khan**, Emotion Recognition Using Convolutional Neural Networks for Happiness and Sadness Classification. International Conference on Statistical Learning, Data Science & Generative AI - IEEE ICSL-DSGA 2026.

21. **Bilal Shoaib Khan**, A Performance Comparison of AES, RSA, ChaCha20, and ECC: Implications for Secure and Efficient Cryptography. International Conference on Statistical Learning, Data Science & Generative AI - IEEE ICSL-DSGA 2026.

22. **Bilal Shoaib Khan**, A Trend-Based Time-Series Approach for Long-Term Gold Price Forecasting Using Prophet International Conference on Statistical Learning, Data Science & Generative AI - IEEE ICSL-DSGA 2026.

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