## **Ayesha Maqbool**

### Associate Professor

School of Electrical Engineering and Computer Science

Email: ayesha.maqbool@mcs.edu.pk

Contact: 9230555548

LinkedIn: https://www.linkedin.com/in/ayesha-sheikh-8874139/



2005

### **About**

Dr. Ayesha Maqbool is working as Associate Professor in the School of Electrical Engineering and Computer Science. Dr. Ayesha Maqbool has a PhD in Automatic Control And Systems Engineering. Dr. Ayesha Maqbool has published 41 research articles & conference papers having a citation count of 331, carried out 5 projects and filed 1 intellectual property.

### Qualifications

**Gold Medal** 

Chancellor and Campus Gold Medals by COMSATS

PhD in Automatic Control And Systems Engineering University of Sheffield , England	2008 - 2011
MSc in Computer Science COMSATS, Abbottabad , Pakistan	2003 - 2005
BSc in Computer Science Allama Iqbal Open University , Pakistan	1999 - 2002
Experience	
Associate Professor School of Electrical Engineering and Computer Science	2024- Present
Associate Professor Military College of Signals	2024 - 2024
Associate Professor Military College of Signals	2022 - 2024
Associate Professor  NUST Balochistan Campus	2022 - 2020
Assistant Professor  NUST Balochistan Campus	2020 - 2022
Assistant Professor Military College of Signals	2017 - 2022
Assist Prof Shaheed Benazir Bhutto Women Univ , Peshawar	2014 - 2017
<b>Teaching Assistant</b> The University of Sheffield , Sheffield UK	2008 - 2011
Lecturer COMSATS Abbottabad , Abbottabad	2006 - 2007
<b>Design Engineer</b> RWR Pvt , Design Engineer	2005 - 2006
Awards	
O. LUM, A. J.	2005

## **Research Projects**

National Projects	
PIE (Partnership in Equality) for UK-Pakistan Women in Robotics & Al	2023
Funding Agency: British Council Amount: PKR 1,056,208,566.00 Status: Approved_inprocess	
CubeSat mission for glacier monitoring and disaster prediction Funding Agency: APSCO Amount: PKR 27,815,300.00 Status: Approved_inprocess	2024
Bridging Gender Gap in STEM Pakistan: Workshop on Female Role Model Outreach Funding Agency: AlumNode Funding 2021. UK Amount: PKR 876,945.00 Status: Completed	2021
Transaction Integrity Assurance in ERP solution through Blockchain Funding Agency: Army Amount: PKR 200,000.00 Status: Completed	2018
Aurduino based controller for a Quadcopter Funding Agency: IGNITE Amount: PKR 79,600.00 Status: Completed International Projects	2019
Research Articles	
Automated categorization of software security requirements: an NLP and ML based approach  Rizwana Batool Ayesha Naseer Ayesha Maqbool Maemoona Kayani  Requirements Engineering, Volume: 30, Pages:133-145  Impact Factor: 2.100   Quartile: 2  DOI: https://doi.org/10.1007/s00766-025-00443-8	2025
C2B: A Semantic Source Code Retrieval Model using CodeT5 and Bi-LSTM  Nazia Bibi Ayesha Maqbool Tauseef Ahmad Rana Farkhanda Afzal Adnan Ahmed Khan  Applied Sciences, Volume 14(13), Article Number 5795  Impact Factor: 2.500   Quartile: 1   Citations: 2  DOI: https://doi.org/10.3390/app14135795	2024
Multiple attribute group decision making approach for selection of robot under induced bipolar neutrosophic aggregation operators  Farkhanda Afzal Ayesha Maqbool Saleem Abdullah Ali Akgül Abdul Bariq Muhammad Jamil  Complex & Intelligent Systems, Pages: 18  Impact Factor: 5.8   Quartile: 2   Citations: 8  DOI: 10.1007/s40747-023-01264-4	2024
Enhancing source code retrieval with joint Bi-LSTM-GNN architecture: A comparative study with ChatGPT-LLM  Nazia Bibi Ayesha Maqbool Tauseef Ahmed Rana  Journal of King Saud University - Computer and Information Sciences, Volume 36, Issue 2  Impact Factor: 6.9   Quartile: 1   Citations: 8  DOI: 10.1016/j.jksuci.2023.101865	2024
A novel hybrid CNN-LSTM approach for assessing StackOverflow post quality  Zeeshan Anwar Hammad Afzal Ali Ahsan Naima Altaf Ayesha Maqbool  Journal of Intelligent Systems, Pages 1-21  Impact Factor: 2.100   Quartile: 3   Citations: 9  DOI: https://doi.org/10.1515/jisys-2023-0057	2023
Enhancing Semantic Code Search with Deep Graph Matching	2023

Nazia Bibi Ayesha Maqbool Tauseef Rana Farkhanda Afzal Ali Akgul Sayed M. El Din

*IEEE Access*, Volume 11, Pages 52392-52411 **Impact Factor:** 3.476 | **Quartile:** 2 | **Citations:** 4

DOI: 10.1109/ACCESS.2023.3263878

### Reusable Component Retrieval: A Semantic Search Approach for Low Resource Languages

2023

Nazia Bibi Tauseef Ahmad Rana Ayesha Maqbool Tamim Alkhalifah Wazir Zada Khan Yousaf Bin Zikria ACM Transactions on Asian and Low-Resource Language Information Processing, Volume 22 Issue 5

Impact Factor: 1.471 | Quartile: 4 | Citations: 1

DOI: 10.1145/3564604

#### Volume of Fluid Simulations of Heat Transfer in Liquid-Liquid Segmented Flows in Microfluidic channel

2023

Shazia Bashir Saad Shaukat Mustafa Inc Muhammad Bashir Ayesha Maqbool Muhammad Sajid Iqbal Farkhanda Afzal

Microgravity Science and Technology, Volume 35, Article Number: 16

Impact Factor: 1.642 | Quartile: 3 **DOI**: doi.org/10.1007/s12217-023-10041-4

### An Intelligent Platform for Software Component Mining and Retrieval

2023

Nazia Bibi Tauseef Rana Ayesha Maqbool Farkhanda Afzal Ali Akgul Manuel De la Sen

Sensors , Volume 23, Issue 1, Article Number 525

Impact Factor: 3.847 | Quartile: 2 | Citations: 2

DOI: https://doi.org/10.3390/s23010525

## Web semantics and ontologies-based framework for software component selection from online repositories

2023

Nazia Bibi Tauseef Ahmed Rana Ayesha Maqbool Alina Mirza Zeshan Iqbal Muhammad Attique Khan Majed Alhaisoni Usman Tariq Robertas Damaševičius International Journal of Web and Grid Services, Volume 19, No. 3, Pages 318-349

Impact Factor: 1.0 | Quartile: 4 | Citations: 1 DOI: https://doi.org/10.1504/ijwgs.2023.133503

### Achieving Stepwise Construction of Cyber Physical Systems in EX-MAN Component Model

2022

Tauseef Ahmad Rana Ayesha Maqbool Toqir A.Rana Alina Mirza Zeeshan iqbal Muhammad Attique Khan Majed Alhaisoni Abdullah Alqahtani Ye Jin Kim Byoungchol Chang

Journal of King Saud University - Computer and Information Sciences, Article in Press

Impact Factor: 9.000 | Quartile: 1 | Citations: 1 DOI: https://doi.org/10.1016/j.jksuci.2022.10.024

### Einstein Aggregation Operators under Bipolar Neutrosophic Environment with Applications in Multi-Criteria Decision-Making

2022

Citteria Decision-Making

Muhammad Jamil Farkhanda Afzal Ali Akgul Saleem Abdullah Ayesha Maqbool Abdul Razzaque Muhammad Bilal Riaz Jan Awrejcewicz

Applied Sciences, Volume 12(19), Article Number 10045

Impact Factor: 2.9 | Quartile: 2 | Citations: 12 DOI: https://doi.org/10.3390/app121910045

## System-Level Performance Analysis of Cooperative Multiple Unmanned Aerial Vehicles for Wildfire

2022

Surveillance Using Agent-Based Modeling

Sustainability, Volume 14(10), Article Number 5927

Impact Factor: 3.251 | Quartile: 2 | Citations: 5

**DOI:** https://doi.org/10.3390/su14105927

## DepTSol: An Improved Deep-Learning- and Time-of-Flight- Based Real-Time Social Distance Monitoring

Ayesha Maqbool Alina Mirza Farkhanda Afzal Tajamul shah Wazir Zada Khan Yousaf Bin Zikria Sung Won Kim

2022

Approach under Various Low-Light Conditions

Adina Rahim Ayesha Maqbool Alina Mirza Farkhanda Afzal Ikram Asghar

Electronics, 11(3), 458

Impact Factor: 2.397 | Quartile: 3 | Citations: 7

DOI: 10.3390/electronics11030458

# Development of an Improved Frequency Limited Model Order Reduction Technique and Error Bound for Discrete-Time System

2021

Sammana Batool Muhammad Imran Muhammad Imran Ehsan Elahi Ayesha Maqbool Syed Amer Ahsan Gilani

Radioengineering, Volume 30, No. 4, Pages 729-738

Impact Factor: 0.951 | Quartile: 4 | Citations: 5

DOI: DOI: 10.13164/re.2021.0729

A comparative analysis of consensus protocols for dealing power theft issue in Pakistan.	2021
Ayesha Maqbool Sumaera Sattar Amna Naheed Sana Khalid Tauseef Ahmad Rana Farkhanda Afzal Murat Cacan Journal of Information and Optimization Sciences, Volume 42(7), Pages 1523-1540  Impact Factor: N/A  DOI: 10.1080/02522667.2021.1934100	
Blockchain Based Enhanced ERP Transaction Integrity Architecture and PoET Consensus  Iqra Shahzad Ayesha Maqbool Maham Akhtar Alina Mirza Muhammad Anees Khan Wazir Zada Khan Shadab Alam  Computers, Materials & Continua, Volume 70, No.1, Pages 1089-1109  Impact Factor: 3.772   Quartile: 2   Citations: 30  DOI: 10.32604/cmc.2022.019416	2021
FxRLS Algorithms Based Active Control of Impulsive Noise with Online Secondary Path Modeling  Fareeha Jabeen Alina Mirza Ayesha Zeb Muhammad Imran Farkhanda Afzal Ayesha Maqbool  IEEE Access, Volume 9, Pages 117471-117485  Impact Factor: 3.476   Quartile: 2   Citations: 9  DOI: 10.1109/ACCESS.2021.3105902	2021
A Model-Driven Framework for the Development of MVC-Based (Web) Application Sheikh Israr Ahmad Tauseef Ahmad Rana Ayesha Maqbool Arabian Journal for Science and Engineering, Pages 1-15 Impact Factor: 2.807   Quartile: 2   Citations: 14 DOI: https://doi.org/10.1007/s13369-021-06087-4	2021
Blockchain-based green big data visualization: BGbV  Iqra Shehzad Ayesha Maqbool Tauseef Rana Alina Mirza Wazirzada Khan Sung Won Kim Yousaf Bin Zikria Sadia Din  Complex & Intelligent Systems, Pages 1-12  Impact Factor: 6.700   Quartile: 1   Citations: 9  DOI: https://doi.org/10.1007/s40747-021-00466-y	2021
Thermodynamics Inspired Co-operative Self-Organization of Multiple Autonomous Vehicles  Farkhanda Afzal Tauseef Rana Alina Mirza Ayesha Maqbool  Intelligent Automation & Soft Computing, Volume 28, No.3, Pages 653-667  Impact Factor: 3.401   Quartile: 2   Citations: 2  DOI: doi:10.32604/iasc.2021.017506	2021
Design and Implementation of Novel LMI-Based Iterative Learning Robust Nonlinear Controller  Saleem Riaz Hui Lin Farkhanda Afzal Ayesha Maqbool  Complexity, Volume 2021, Article ID 5577241, 13 pages  Impact Factor: 2.121   Quartile: 2   Citations: 12  DOI: 10.1155/2021/5577241	2021
Modified 2-Way Wavefront (M2W) Algorithm for Efficient Path Planning  Ayesha Maqbool Alina Mirza Farkhanda Afzal  International Journal of Computational Intelligence Systems, Volume 14, Issue 1, Pages 1066-1077  Impact Factor: 2.259   Quartile: 3  DOI: https://doi.org/10.2991/ijcis.d.210305.002	2021
Monitoring social distancing under various low light conditions with deep learning and a single motionless time of flight camera  Adina Raheem Ayesha Maqbool Tausseef Rana  PloS One, Volume 16(2), Article Number e0247440  Impact Factor: 3.752   Quartile: 2   Citations: 55  DOI: https://doi.org/10.1371/journal.pone.0247440	2021
A study of right zero divisor graph of 3 × 3 matrices over ℤ2  Abdul Jalil M. Khalaf Farkhanda Afzal Ayesha Maqbool Minhas Mahsud Deeba Afzal Faiza Khan Sherwani  Journal of Information & Optimization Sciences, Pages 1-6  Impact Factor: -  DOI: 10.1080/02522667.2020.1835035	2020
Right zero divisor graph of 2×2 matrices over Z 3  Abdul Jalil M. Khalaf Farkhanda Afzal Ayesha Maqbool Hina Dilawer Deeba Afzal Faryal Chaudhry  Journal of Information & Optimization Sciences, Pages 1-8  Impact Factor:	2020

Impact Factor: 0.944 | Quartile: 3 | Citations: 22

**DOI:** 10.1109/TCAPT.2008.2004412

<b>DOI:</b> 10.1080/02522667.2020.1826168	
Algorithm for computing differential char sets efficiently  Ayesha Maqbool Murat Cancan Farkhanda Afzal Deeba Afzal  Journal of Discrete Mathematical Sciences and Cryptography, Volume 23, No. 6, Pages 1203–1216  Impact Factor: N/A   Citations: 3  DOI: DOI: 10.1080/09720529.2020.1809114	2020
Some new topological indices of silicate network via M-polynomial  Murat Cancan Ayesha Maqbool Murat Cancan Farkhanda Afzal Deeba Afzal Sabir Hussain  Journal of Discrete Mathematical Sciences and Cryptography, Volume 23, No. 6, Pages 1157–1171  Impact Factor: N/A   Citations: 42  DOI: DOI: 10.1080/09720529.2020.1809776	2020
M-Polynomial and topological indices of book graph  Abdul Jalil M. Khalaf Ayesha Maqbool Abdul Jalil M. Khalaf Farkhanda Afzal Sabir Hussain Deeba Afzal  Journal of Discrete Mathematical Sciences and Cryptography, Volume 23, No. 6, Pages 1217–1237  Impact Factor: N/A   Citations: 34  DOI: 10.1080/09720529.2020.1809115	2020
Disaster Mitigation in Urban Pakistan Using Agent Based Modeling with GIS  Zain ul Abdain Usmani Farkhanda Afzal Alia Razia Zain ul Abdain Usmani Ayesha Maqbool  International Journal of Geo-Information, Volume 9(4), Article Number 203  Impact Factor: 2.899   Quartile: 2   Citations: 9  DOI: 10.3390/ijgi9040203	2020
A Blockchain-Based Solution to Control Power Losses in Pakistan  Sana Khalid Ayesha Maqbool Amna Naheed Tauseef Rana  Arabian Journal for Science and Engineering, Pages 1-13  Impact Factor: 2.334   Quartile: 3   Citations: 8  DOI: https://doi.org/10.1007/s13369-020-04464-z	2020
Optimization of Cylindrical Pin-Fin Heat Sinks Using Genetic Algorithms  Sajjad Mohsin Ayesha Maqbool Waqar Ahmed Khan  IEEE Transactions on Components and Packaging Technologies, Volume 32, Issue 1, Pages 44-52	2009

## **Conference Proceedings**

A Pragmatic Decision Making Mechanism for Reusable Source Code Snippets Retrieval using Semantic	2023
Approach	2020
Nazia Bibi Tauseef Ahmed Rana Ayesha Maqbool Qurat-ul-Ain	
International Bhurban Conference on Applied Sciences & Technology, res.country(177,)	
Citations: N/A	
DOI: Nil	
Exploring the Effectiveness of Joint Bi-LSTM-GNN vs ChatGPT-LLM in Source Code Retrieval	2023
Nazia Bibi Ayesha Maqbool Tauseef Ahmed Rana	
International Bhurban Conference on Applied Sciences & Technology, res.country(177,)	
Citations: N/A	
DOI: Nil	
Enhancing source code retrieval with joint Bi-LSTM-GNN architecture: A comparative study with	2023
ChatGPT-LLM	
Nazia Bibi Tauseef Ahmad Rana Ayesha Maqbool 2023 20th International Bhurban Conference on Applied Sciences and Technology (IBCAST), res.country(177,)	
Citations: N/A	
DOI: 10.1109/IBCAST59916.2023.10712910	
Di Directional I CTM Deced Court Famine for Courts Ondo Detrious	0000
Bi-Directional LSTM-Based Search Engine for Source Code Retrieval  Nazia Bibi Tauseef Ahmad Rana Ayesha Maqbool	2023
4th International Conference on Communication Technologies, ComTech 2023, res.country(177,)	
Citations: N/A	
<b>DOI:</b> 10.1109/ComTech57708.2023.10165061	
Categorization of User Experience and Usability Issues (UXUIs) and their Prioritization w.r.t	2021
Categorization for Improving the UXU of Interactive System (IS)	2021
Tayyba Farooqui Tauseef Ahmad Rana Ayesha Maqbool	
2021 International Conference on Communication Technologies (ComTech), res.country(177,)	
Citations: N/A	
<b>DOI:</b> 10.1109/ComTech52583.2021.9616799	
Capturing Users Requirements Using a Data Mining Approach	2021
Muhammad Zeeshan Qureshi Anique Azhar Qazi Abubakar Tauseef Ahmad Rana Ayesha Maqbool	
International Conference on Communication Technologies (ComTech), res.country(177,)	
Citations: 2	
<b>DOI:</b> 10.1109/ComTech52583.2021.9616939	
A Comparative Analysis of Consensus Protocols for Dealing Power Theft Issue in Pakistan	2021
Ayesha Maqbool Amna Naheed Sana Khalid Tauseef Ahmad Rana Farkhanda Afzal	
Communications in Combinatorics, Cryptography & Computer Science, res.country(107,)	
Citations: N/A	
<b>DOI</b> : 10.13140/RG.2.2.36495.51364	
Editorial Activities	
Symmetry	2025
Reviewed Papers for Journals	2023
Impact Factor: 2.2	
Symmetry	2025
Reviewed Papers for Journals	2023
Impact Factor: 2.2	
Symmetry	2025
Reviewed Papers for Journals	2023
Impact Factor: 2.2	
IEEE Canadian Journal of Flootrical and Computer Engineering	2025
IEEE Canadian Journal of Electrical and Computer Engineering Reviewed Papers for Journals	2025
Impact Factor: 0.5	
PloS one	2023
1 100 0110	2023

Edited Journal Issue / Proceeding / Book	
Impact Factor: 3.5	
Sustainability	2023
Reviewed Papers for Journals	
Impact Factor: 3.8	
Risks	2023
Reviewed Papers for Journals	
Impact Factor: 2.2	
Applied Sciences	2023
Reviewed Papers for Journals	
Impact Factor: 2.7	
Sensors	2023
Reviewed Papers for Journals	
Impact Factor: 3.9	
Sensors	2023
Reviewed Papers for Journals	
Impact Factor: 3.9	
Sensors	2023
Reviewed Papers for Journals	
Impact Factor: 3.9	
Electronics	2023
Reviewed Papers for Journals	
Impact Factor: 2.9	
Sensors	2022
Reviewed Papers for Journals	
Impact Factor: 3.9	
Applied Sciences	2022
Reviewed Papers for Journals	
Impact Factor: 2.7	
CMC-Computers Materials & Continua	2022
Reviewed Papers for Journals	
Impact Factor: 3.1	
Computers, Materials & Continua	2022
Reviewed Papers for Journals	
Impact Factor: 3.1	
Plos One	2022
Edited Journal Issue / Proceeding / Book Impact Factor: 3.7	
Applied Sciences	2022
Reviewed Papers for Journals	
Impact Factor: 2.2	
CMC-Computers Materials & Continua	2022
Reviewed Papers for Journals	

**Applied Sciences** Reviewed Papers for Journals Impact Factor: 2.7 Sensors Reviewed Papers for Journals Impact Factor: 3.9

2022

2022

Complexity 2022 Reviewed Papers for Journals

Impact Factor: 2.12

Impact Factor: 3.1

Reviewed Papers for Journals Impact Factor: 1.5	2021
Reviewed Papers for Journals Impact Factor: 3.458	2021
Reviewed Papers for Journals Impact Factor: 2.659	2021
Reviewed Papers for Journals Impact Factor: 2.93	2020
Reviewed Papers for Journals Impact Factor: 3.458	2020
Reviewed Papers for Journals Impact Factor: 1.851	2019
Reviewed Papers for Journals	2019
Reviewed Papers for Journals	2019
Reviewed Papers for Journals	2019
Intellectual Property	
Copyrights	
Patents	
Solar Infinity (SI-1) – Critical Load Management for Optimal use of Green Energy/an Adaptive Optimal  Green Energy Solution  Status: Filed	2021
Industrial Designs	
Trademarks	
Trainings	
Distributed Artificial Intelligence"( https://mcs.nust.edu.pk/events/webinar-distributed-artificial-intelligence/)	2021

Partner: 0

Duration: 22-Sep-2021 to 22-Sep-2021