

CURRICULUM VITAE

Dr. Waqas Haider Khan Bangyal

Member IEEE / ACM Member

Associate Professor

In charge Dean of Faculty of Applied Sciences and Computing

Chairperson Department of Computer Science

Kohsar University Murree, Murree, Punjab, Pakistan

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OBJECTIVES:

To obtain a challenging position where my academic and professional qualification can be best utilized

SUMMARY:

- **Doctor of Philosophy**, Department of Computing and Technology Iqra University Islamabad
- Undergoing the research in “Deep Learning” , “ Bio - Informatics” and “Computational Intelligence”
- Ample knowledge of working with optimization problems.
- Algorithms Designing and making solution to the problems.

EDUCATION:

- *Ph.D. in Computer Science* (rank: 1st Div)
Advisor: **Prof. Dr. Jamil Ahmad**, V.C Hazara University, Manshera KPK
Iqra University Islamabad
- *M.S (Computer Science)* (rank: 1st Div)
Iqra University Islamabad
- *M.C.S.(Computer Science)* (rank: 1st Div)
BZ University, Multan
- *B.Sc. (Math A, B, Physics)* (rank: 1st Div)
BZ University, Multan
- *F.Sc (Pre Engg)* (rank: 1st Div)
B.I.S.E Sargodha
- *Matric (Phy, Chem, Bio, Math)* (rank: 1st Div)
B.I.S.E Sargodha

Teaching Experience:

- **Department of Computer Science, Kohsar University, Murree**
(Spring-2022- to date)
Working as an **Associate Professor** and teaching the Under Graduate **BS (CS), MS (CS)** level in Department of Computer Science, responsibility for lectures, exams, homework assignments, and grades
 - **Analysis of Algorithm**, On-campus Under Graduate level course,
 - **Special Topics in Deep Learning** , On-campus Graduate level course,
- **Department of Computer Science, University of Gujrat , Gujrat**
(Spring -2016 to Fall-2021)
Worked as an **Assistant Professor** and teaching the Under Graduate **BS (CS), MS (CS) , Ph.D(CS)** level in Department of Computer Science, responsibility for lectures, exams, homework assignments, and grades
 - Advanced Analysis of Algorithm**, On-campus Graduate level course,
 - Machine Learning**, On-campus Undergraduate level course,
 - Artificial Intelligence**, On-campus Undergraduate level course,
- **Department of Computer Science, Federal Urdu University of Science and Technology Islamabad**
(Spring -2013 to Spring-2016)
Worked as a **Lecturer** and taught the Under Graduate **BS (CS) and MS (CS)** ,level in Department of Computer Science, responsibility for lectures, exams, homework assignments, and grades
 - Advanced Analysis of Algorithm**, On-campus Graduate level course,
 - Artificial Intelligence**, On-campus Undergraduate course,
- **Department of Computing and Technology Iqra University Islamabad.**
(Summer -2011 to Fall-2012)
Worked as a **Lecturer** and taught the Under Graduate **BS (CS)** and Postgraduate level **MS (CS)** level in Department of Computing and Technology, responsibility for lectures, exams, homework assignments, and grades
 - Research method and Skill**, On-campus Postgraduate level course, Fall-2011, Spring-12, Summer-12, Fall-12
 - Artificial Neural Network**, On-campus Undergraduate level course, spring 2012
- **Department of Computing and Technology Iqra University Islamabad.**
(Spring -2010 to Spring-2011)
Worked as a **Research Associate** and conducted the research classes for the final thesis for Bachelor and master level.
 - **Software Engineer at Zem Solution Islamabad.**
(May -2004 to Jan-2010)
Worked as a **Software Engineer** at the Zem Solution

RESEARCH PUBLICATIONS:

Journal Articles: **(Total Impact Factor: 60)**

1. **W.H.Bangyal** , et. al, "Constructing Domain Ontology for Alzheimer Disease Using Deep Learning Based Approach", Symmetry , **(IF:2.98, Published)**
2. A. Ashraf, **W. H. Bangyal**, et.al ,"Analysis of Brain Imaging Data for the Detection of Early Age Autism Spectrum Disorder using Transfer Learning Approaches for Internet of Things" , IEEE Transactions on Consumer Electronics (**IF:2.98, Accepted**)
3. H.T.Rauf, **W.H.Bangyal**, et. al "An Adaptive Hybrid Differential Evolution Algorithm for Continuous Optimization and Classification Problems " , Neural Computing and Applications (2021) 33:10841-10867 **(IF: 4.42, Published)**
4. A Khattak, **WH Bangyal**, et. al, "Enhanced concept-level sentiment analysis system with expanded ontological relations for efficient classification of user reviews", Egyptian Informatics Journal (**I.F: 4.91, Published**)
5. **W. H. Bangyal**, R. Qasim, et. al "Detection of Fake News Text Classification on COVID-19 Using Deep Learning Approaches", Computational and Mathematical Methods in Medicine Volume 2021, PP:1-18 **(IF: 2.6, Published)**
6. **W.H.Bangyal**, N.Rehman, et al "Constructing Domain Ontology for Alzheimer Disease Using Deep Learning Based Approach" Electronics **(IF:2.73,Published)**
7. **W.H.Bangyal** , et. al," An Improved Particle Swarm Optimization Algorithm for Data Classification " , Applied Sciences, **(IF:2.8, Published)**
8. **W.H.Bangyal**, J.Ahmad, ," A Modified Bat Algorithm With Torus Walk for Solving Global Optimization Problems" , in International Journal of Bio-Inspired Computation (IJBIC), 2019 **(IF=2.26,Published)**
9. R. Qasim , **W. H. Bangyal** et. al , "A Fine-Tuned Bert Based Transfer Learning Approach For Text Classification" , Journal of Health Engineering, **(IF: 2.7, Published)**
10. **W.H.Bangyal** , et. al, "An Improved Particle Swarm Optimization Algorithm for Global Optimization: An Experimental Study" , Computers, Materials & Continua , 2023, **(IF:3.9, Accepted)**
11. **W.H.Bangyal** , et. al, " Comparative Analysis Using Machine Learning Techniques for Fine Grain Sentiments" , Journal on Artificial Intelligence ,2022, **(ISI Indexed, Published)**

12. **W.H.Bangyal** , et. al, "Automatic Recognition of Severity Level for Diagnosis of Diabetic Retinopathy Using Ensemble Learning Based Approaches" , Computers, Materials & Continua , 2023, **(IF:3.1, Accepted:)**
13. **W.H.Bangyal**, A. Hameed et al , A New Initialization Approach in Particle Swarm Optimization for Global Optimization Problems " , Computational Intelligence and Neuroscience, Volume 21, PP:1-17 **(IF: 2.6, Published)**
14. N. Hassan, **W, H . Bangyal** et. Al " Improved Opposition-Based Particle Swarm Optimization Algorithm for Global Optimization", Symmetry 2021, 13, 2280 **(IF:2.7, Published)**
15. **W.H.Bangyal**, J.Ahmad, "Evolving Artificial Neural Network Using Improved Bat Algorithm for Data Classification" in Journal of Medical Imaging and Health Informatics , 2019 **(IF=0.6, Published)**
16. **W.H.Bangyal**, J. Ahmad, , "A Forward Only Counter Propagation Network based Approach for Contraceptive Method Choice Classification Task " , Journal of Experimental & Theoretical Artificial Intelligence, pp.1-8, November 2011 **(I.F 1.655, Published)**
17. S. Pervaiz, Z. Qayyum , **W. H.Bangyal** et. al , " A Systematic Literature Review On Particle Swarm Optimization Techniques For Medical Diseases Detection " Computational and Mathematical Methods in Medicine , 2021, **(IF:2.2, Published)**
18. A Ashraf, S. Pervaiz, K Nisar, **W.H.Bangyal**, et al. "Studying the Impact of Initialization for Population-Based Algorithms with Low-Discrepancy Sequences", Applied Sciences, **(IF:2.67, Published)**
19. **W.H.Bangyal**, K. Nisar, et . al , "Comparative Analysis of Low Discrepancy Sequence-Based Initialization Approaches Using Population-Based Algorithms for Solving the Global Optimization Problems" , Applied Sciences, **(IF:2.67, Published)**
20. A.Ashraf, A. A. Almazroi ,**W.H.Bangyal**, et. al , "Particle Swarm Optimization with New Initializing Technique to Solve Global Optimization Problems", Intelligent Automation & Soft Computing , 2021, **(IF:1.6, Published)**
21. S. Pervaiz, **W.H.Bangyal** et. al , "Comparative Research Directions of Population Initialization Techniques using PSO Algorithm" Intelligent Automation & Soft Computing , 2021, **(IF:1.6, Published)**
22. **W. H. Bangyal**, A.Hameed et. al , "New Modified Controlled Bat Algorithm for Numerical Optimization Problem" Computers, Materials & Continua , 2021, **(IF:3.7, Published)**
23. **W.H.Bangyal**, J.Ahmad, , "An Improved Bat Algorithm based on Novel

Initialization Technique for Global Optimization Problem" International Journal of Advanced Computer Science and Applications(IJACSA), 9(7), 2018. **(ISI Indexed, Published)**

24. **W.H.Bangyal**,J.Ahmad, "An Overview of Mutation Strategies in Bat Algorithm " International Journal of Advanced Computer Science and Applications(IJACSA), **(ISI Indexed, Published)**
25. **W.H.Bangyal**, J.Ahmad, "An Improved Particle Swarm Optimization Algorithm with Chi-Square Mutation Strategy", International Journal of Advanced Computer Science and Applications(IJACSA) **(ISI Indexed, Published)**
26. **W.H.Bangyal**, J.Ahmad, H.T.Rauf, "An overview of Mutation Strategies in Particle Swarm Optimization," International Journal of Applied Metaheuristic Computing, ((IJAMC) , **(ISI Indexed, Published)**
27. **W.H.Bangyal**, J.Ahmad, H.T.Rauf , "Comparison of Different Bat Initialization Techniques for Global Optimization Problems" International Journal of Applied Metaheuristic Computing, ((IJAMC) , **(ISI Indexed, Published)**
28. **W.H.Bangyal**, J.Ahmad, "A New Initialization Approach for Particle Swarm Optimization Algorithm for Global Optimization , " , International Journal of Advanced Computer Science and Applications(IJACSA) **(ISI Indexed. Published)**

Conference Papers:

1. A Ashraf, **W H Bangyal**, et. al." An Improved Fire Hawks Optimizer for Function Optimization ", International Conference on Swarm Intelligence, 2023, Shenzen China, 68-79
2. A Anwaar, **WH Bangyal**, et. al, "Genetic Algorithms: Brief review on Genetic Algorithms for Global Optimization Problems" 2022 Human-Centered Cognitive Systems (HCCS), 1-6
3. **WH Bangyal**, R Shakir, et. al "' An Improved Seagull Algorithm for Numerical Optimization Problem" , International Conference on Swarm Intelligence,2023, Shenzen, 297-308
4. Z Shafqat, **W H Bangyal**, et. al , "Opinion Mining of Politics and Inflation using Roman Urdu Dataset" , 2022 Human-Centered Cognitive Systems (HCCS), 11-17
5. S. Pervaiz, **W. H. Bangyal**, et. al "Population Initialization of Seagull Optimization Algorithm with Pseudo Random Numbers for Continuous Optimization", FIT, Comsat Islamabad, 13-14 Dec 2021
6. M Junaid, **W. H. Bangyal**, J Ahmad , "A novel bat algorithm using sobol sequence for the initialization of population" , 2020 IEEE 23rd International Multitopic Conference (INMIC), PP:1-6(INMIC-Bhawalpur)

7. A.Ashraf, **W.H.Bangyal**, J.Ahmad, "Training of Artificial Neural Network Using New Initialization Approach of Particle Swarm Optimization for Data Classification. " in Proceedings of in the International Conference on Emerging Trends in Smart Technologies (ICETST), FAST, Karachi, Pakistan
8. **W.H.Bangyal**, J.Ahmad, H.T.Rauf, and R.Shakir, "Evolving Artificial Neural Networks Using Opposition Based Particle Swarm Optimization Neural Network for Data Classification" in Proceedings of 2018 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT), University of Bahrain, Bahrain, November 18-20, 2018
9. H.T.Rauf, **W.H.Bangyal**, J.Ahmad, and S.A.K.Bangyal "Training of Artificial Neural Network Using PSO With Novel Initialization Technique " in Proceedings of 2018 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT), University of Bahrain, Bahrain, November 18-20, 2018
10. **W.H.Bangyal**, J.Ahmad, H.T.Rauf and S.A.K.Bangyal " PSO with new initialization approach for solving global optimization problem" in proceedings of 7th World Conference on Information Systems and Technologies, at La Toja Island, Galicia, Spain, 16 - 19 April 2019.
11. **W.H Bangyal** , J. Ahmad, I. Shafi and Q. Abbas, "Forward Only Counter Propagation Network for Balance Scale Weight & Distance Classification Task ",In Proceedings of Third World Congress on Nature and Biologically Inspired Computing (NABIC 2011), Oct 19-21 2011, Salamanca, Spain.
12. **W.H Bangyal** , J.I. Jangua "Hidden Layer Optimization of Neural Network using PSO Technique ",In the proceedings of 5th International Conference on Open Source Systems and Technologies (ICOSST-2011), Dec 22-24 2011, Lahore, Pakistan
13. **W.H Bangyal**, J. Ahmad and Q. Abbas , "Recognition of Off-line Isolated Handwritten Character Using Counter Propagation Network", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 285-288.
14. **W. H Bangyal**, J. Ahmad and Q. Abbas , "Function Approximation Using Counter Propagation Network Algorithm", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 289-292.
15. **W.H Bangyal**, J. Ahmad and Q. Abbas , "Application of Counter Propagation Network in Handwritten Character Recognition Using the Winner-Take-All (WTA) Strategy", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 421-424.

16. **W.H Bangyal**, Q. Abbas and J. Ahmad, "Analysis of Learning Rate using CPN Algorithm for Hand Written Character Recognition Application", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 1-4.
17. Q. Abbas, **W.H Bangyal** and J. Ahmad, "The Impact of Training Iterations on ANN Applications using BPNN Algorithm", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 281-284.
18. Q. Abbas, J. Ahmad and **W.H Bangyal**, "Momentum term heals the performance of Back Propagation Algorithm for Digit Recognition ", In Proceedings of IEEE International Conference on Emerging Technology, 2010, V (2), PP. 16-20.
19. Q. Abbas, **W.H Bangyal** and J. Ahmad, "Dynamic Hidden Layers Selection of ANN Architecture Using Particle Swarm Optimization ", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 418-420.
20. Q. Abbas, J. Ahmad and **W.H Bangyal**, "Analysis of Learning Rate using BP Algorithm for Hand Written Digit Recognition Application", In Proceedings of IEEE International Conference on Information and Emerging Technologies, 2010, PP. 1-5.
21. M. Imran, Z. Manzoor, F. Wahhab, **W. H Bangyal** and Q. Abbas, "Risk management Cycle and Risk Types", In Proceedings of IEEE International Conference on Intelligence and Information Technology, 2010, V (2), PP. 338-340.
22. M. Imran, H. Jabeen, M. Ahmad, Q. Abbas and **W.H Bangyal**, "Opposition based PSO and mutation operators"; IECTC, Shanghai, In Proceedings of IEEE International Conference on Education Technology and Computer, 2010, V (4), PP. 506-508.
23. A.Basit, J. Ahmed, I.Shafi, F.Riaz , Q. Abbas and **W. H. Bangyal**, "Quality of Services Optimization of Femtocells Using Genetic Algorithm", in the Proceedings of IEEE 15th International Multitopic Conference (INMIC), 2012, PP. 312-315.
24. **W.H. Bangyal**, Q. Abbas, Z.Ullah and M.Hamza, "Barriers to Educate Children with Disabilities in Developing Areas of Pakistan", ICTHP 2013, Riyadh, Saudia Arabia, pp 80-84.

AWARDS/HONORS

- Presented the paper in IEEE International Conference on Swarm Intelligence, 2023, **Shenzen China**, July 2023
- Presented the paper in IEEE International Conference Human-Centered Cognitive Systems (HCCS), **Beijing , China**

- Presented Paper in FIT, COMSAT Islamabad, Pakistan, 2021
- Presented Invited talk at Workshop on Evolutionary Computing for Health Care at **9th World CIST'21**, Portugal, April 2021.
- Will Present Invited talk at Workshop on Recent advances in Deep Learning Methods and Evolutionary Computing for Health Care at World CIST 2022 Budva, Montenegro, 2022.
- Presented Paper at University of Bahrain, Bahrain
- Presented Paper in **ICTHP** Conference organized at Al-Imam bin Saud University, KSA , Saudia Arabia
- Presented Paper in **ICIET**, FAST Karachi, Pakistan.
- Presented Paper in **ICIIT**, UCP Lahore, Pakistan
- Presented Paper in **ICIET**, FAST Islamabad, Pakistan.
- Presented Paper in **INMIC**, Ripah University Islamabad, Pakistan.

ASSOCIATE EDITORIAL BOARD MEMBERSHIP

- International Arab Journal of Information Technology (IAJIT) (**IF:0.7**)
- International Journal of Data Mining, Modeling and Management (**ISI Indexed**)
- International Journal of Applied Evolutionary Computation (IJAEC) (**ISI Indexed**)

LEADING EDITOR:

- Worked as a **Guest Editor** for Special issue for Computational Intelligence for Health Care, (Journal: Computational and Mathematical Methods in Medicine, **IF: 1.77**)
- Worked as a **Guest Editor** for Special issue for Discrete Dynamics in Nature and Society, (Journal: Bio-inspired Evolutionary Computations in Healthcare, **IF: 0.81**)
- Worked as a **Guest Editor** for Special issue for International Journal of Distributed Sensor Networks, (Journal: Evolutionary Computing for Sensor Networks and Health Informatics, **IF: 1.2**)

WORKSHOP ORGANISOR

- Worked as an **Organizer** for “ 1st Workshop of Evolutionary Computing in Health Informatics” 9th WorldCIST2021 (**Q1-Conference**)
- Worked as an **Organizer** for ““2nd International Workshop on Evolutionary Computing and Deep Learning for Health Informatics (ECDLHC2021)” 15th ICIC2021 (**Q1-Conference**)
- Worked as an **Organizer** for “ 1st Workshop of Evolutionary Computing in Health Informatics” 6th ICMI 2021 (**Q1-Conference**)

Book Editor:

- Smart Healthcare with Evolutionary Computing: Challenges and Prospects (Bentham Books) [printing phase]
- Challenges and Future Opportunities for Evolutionary Computing in Smart Healthcare (IGI Publisher) [printing phase]

MEMBERSHIP OF INTERNATIONAL JOURNAL REVIEW BOARDS:

- Elsevier Publications :Neural Networks
- Elsevier Publications :Computers & Chemical Engineering
- Elsevier Publications :European Journal Of Operational Research
- Elsevier Publications: Computers & Industrial Engineering
- Elsevier Publications: Information and Software Technology
- International Journal of Computational Intelligence Systems (IJCIS)
- EURASIP Journal on Advances in Signal Processing (Hindawi Publishing Corporation)
- Elsevier Publications: Journal of Systems Architecture
- Elsevier Publications: Journal of Network and Computer Applications
- International Journal of Computer Science Issues (IJCSI)
- The International Arab Journal of Information Technology (IAJIT)
- The Computer Journal (Oxford Journal)
- Memetic Computing (Springer Verlag)
- Neural Network World
- World Applied Sciences Journal (WASJ).
- International Journal of Physical Sciences (IJPS) (ISSN 1992-1950).
- International Journal of Advancements in Computing Technology(IJACT) (ISSN : 2005-8039 ;E-ISSN : 2233-9337)
- Journal of Engineering, Science and Technology Review(JESTR), Greece (ISSN:1791-2377)
- International Journal of Computers, Communication and Control(IJCCC) (ISSN 1841- 9836; E-ISSN 1841-9844)
- International Journal of Computational Intelligence and Information Security (IJCIIS), Australia (ISSN: 1837-7823)
- International Journal of Computer Science and Information Security (IJCSIS), Pittsburgh, USA (ISSN: 1947-5500)
- International Journal on Computer Science and Engineering (IJCSE), Chennai, India (E-ISSN 0975-3397)
- Malaysian Journal of Information and Communication Technology (MYJICT), Selangor, Malaysia (ISSN 2180-0731)
- World of Computer Science and Information Technology (WCSIT) (ISSN 2221-0741)
- International Journal of Advanced Computer Science and Applications (IJACSA), USA (E-ISSN: 2156-5570; ISSN: 2158-107X (Print))

- International Journal of Advanced Research in Artificial Intelligence(IJARAI) , USA (E-ISSN:2165-4069 ; ISSN: 2165-4050(Print))
- International Journal of Computer Science and Intelligent Computing (IJCSIC), USA (ISSN 0976-9250)
- International Journal of Computational Intelligence - Theory and Practice

MEMBERSHIP OF PROFESSIONAL / ACADEMIC BODIES, SOCIETIES:

- Member of IEEE Association in Computer Science as Student Member
- Senior Member of International Association of Computer Science and Information Technology (IACSIT), Singapore. (IACSIT Senior Membership Number is 80343852)
- Senior Member of science and engineering institute (SCIEI). (SCIEI Membership Number is 009220111221003)
- Member of Asia Pacific Neural Network Assembly (APNNA).
- Member of the International Biometric Society (IBS).
- Member of the World Federation on Soft Computing (WFSC)
- Member of the Neural Networks of the World Federation of Soft Computing (WFSC)
- Member of the Institute of Electrical and Electronics Engineers (IEEE), Systems, Man, and Cybernetics Society (SMC) Soft Computing Technical Committee
- Member of International Association of Engineers (IAENG), Hong Kong (IAENG membership number is: 118967) CSTA Member No.: 7681395, Association for Computing Machinery.
- Member of CSTA, Association for Computing Machinery, (Membership No.: 7681395)
- Member of Machine Intelligence Research Labs

SUPERVISION OF MS THESIS

- Structure optimization of feed forward neural network for numerical optimization problems , (Muhammad Anees, Spring 2020)
- An improved particle swarm optimization for data classification and function optimization , (Adnan Ashraf, Fall 2018)
- Continuous optimization using improved bat algorithm , (Muhammad Junaid, Sprng 2019)
- Enhanced differential evolution algorithm for continuous optimization , (Tayab, Fall 2019)
- An analysis of initialization techniques of particle swarm optimization algorithm for global optimization, (Iqra Saleem , Spring 2020)
- A modified particle swarm optimization (m-pso), (Ehsan Ali, Fall 2017)
- Improved particle swarm optimization for global optimization , (nadra bibi, Fall 2019)
- An improved seagull algorithm for data classification (Aatika Amjad, Spring 2020)

- Social media data analysis with sequential pattern mining (Rukhma Qasim, Spring 2020)
- Automatic detection of autism spectrum disorder using deep learning based approach (Sadia Qausar, Spring 2020)
- Oppositional based evolutionary computing algorithms to solve numerical optimization problems (Muhmmad Nafees, Fall 2019)

CO-SUPERVISION OF PHD THESIS

- Particle Filter (PFs) with Occlusion Handling for Human Body Tracking using Swarm Intelligence based Approaches

REFERNCES:

- **Prof Dr. Jamil Ahmad**
Ex- Vice Chancellor,
Hazara University, Manshera , KPK
- **Prof Dr. Zia Ul Qayyum**
Ex-V.C AIOU, Islamabad

DECLARATION:

I declare that the above information given by me is true to the best of my knowledge.