

# SAMAN RIAZ (Ph.D.)

HEC Approved Supervisor



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## Education and Academic Degrees

**Ph.D. Computer Science and Technology** (Sep. 2016– June 2019)

**Thesis Title:** Fuzzy and Rough C-Mean based CNN Clustering and Classification for Big Data

**Department:** Computer Science and Technology, **Xidian University, Xi'an, P.R. China**

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**Master of Philosophy (M.Phil)** (Sep. 2006 – July. 2008)

**Thesis Title:** The Numerical Techniques for the Assessment of an Isolated Wall in Transient Problems

**Department:** Mathematics, **Quaid-i-Azam University, Islamabad, Pakistan**

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**Master of Science (M.Sc)** (Sep. 2004 – June. 2006)

**Department:** Mathematics, Quaid-i-Azam University, Islamabad, Pakistan

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## Research Interests

- Artificial Intelligence
- Machine Learning
- Neural Network
- Datamining
- AI Statistics
- Big Data

## Work Experience (17 years)

- **02/2024-Present**, Associate Professor in Computer Science Department, Riphah International University, Lahore, Pakistan.
- **09/2021-02/2024**, Assistant Professor in Computer Science Department, National University of Technology, Islamabad, Pakistan.
- **06/2020-09/2021**, Head of department of Artificial Intelligence SS-CASE-IT, Islamabad, Pakistan.
- **09/2016-06/2019**, Research Associate, The Key Lab of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University, Xian, P. R. China.
- **07/2014-09/2021**, Assistant Professor, SS-CASE-IT, Islamabad, Pakistan.
- **07/2010-06/2014**, Senior Lecturer, Center for Advanced Studies in Engineering, Islamabad, Pakistan.
- **06/2009-06/2010**, Lecturer, Center for Advanced Studies in Engineering, Islamabad, Pakistan.
- **01/2008-06/2009**, Lecturer, International Islamic University, Islamabad, Pakistan.

## **Course Teaching (Graduate and Undergraduate)**

- Natural Language Processing
- Advance Theory of Computation
- Advance Analysis of Algorithm
- Data Structure
- Deep Learning
- Machine Learning
- Design and Analysis of Algorithm
- Artificial Neural Network
- Data Mining
- Discrete Mathematics
- Calculus (I & II)
- Differential Geometry
- Differential Equations
- Partial Differential Equations
- Linear Algebra
- Computational Mathematics (Differential and Partial Differential Equations)
- Probability and statistics
- Probability and stochastic processes
- Statistical Inference.

## **Co-Curricular Experience**

- Member, Disciplinary Committee, Center for Advanced Studies in Engineering, Islamabad, Pakistan.
- Member of Adventure Club, Center for Advanced Studies in Engineering, Islamabad, Pakistan.

## **Awards and Achievements**

- Heading NCEAC Zero Visit for BS (Artificial Intelligence) for SS-CASE-IT, Islamabad in July 2021.
- A Won Full Bright (A - Category) Scholarship for Ph.D. Studies from Chinese Government Scholarship Council (2016 – 2019).
- Best Paper Award in “3rd IEEE - International Conference on Information Technology and Mechatronics Engineering”, (IEEE - ITOEC-2017), Chongqing, P.R. China.

## **Attended Conferences, Training, Seminars and Workshops**

- Women Leadership - Cohort-II at University of Alabama, Tuscaloosa, USA, 1 January 2023 – 30 October 2023
- Chief Organizer in “International Workshop & Exhibition on Artificial Intelligence in Health Care” COMSTECH Secretariat, 24-25 November 2020.
- Paper Presented in “3rd International Conference on Information Technology and Intelligent Transportation Systems (ITITS 2018)”, Xi'an, China 2018
- 3rd International Conference on Recent Developments in Fluid Mechanics at Quaid-i-Azam University, Islamabad, Pakistan (July 30th - August 1st 2009)
- International Conference on Recent Developments in Fluid Mechanics, Quaid-i-Azam University, Islamabad, Pakistan (July 2nd - 4th 2007).
- All Pakistan Mathematical Conference, Quaid-i-Azam University, Islamabad, Pakistan (June 7th –9th 2007).

## Articles Published in Journals (Impact Factor = 73.09)

1. A. Zafar, N. Saba, A. Arshad, A. Alabrah, **S. Riaz**, M. Suleman, S. Zafar, M. Nadeem, "Convolutional Neural Networks: A Comprehensive Evaluation and Benchmarking of Pooling Layer Variants", *Symmetry*, 2024. **(Impact Factor = 2.2) (SCI- HEC- W Category)**
2. S. W. Zahra, M. Nadeem, A. Arshad, **S. Riaz**, W. Ahmed, M. AbuBakr, A. Alabrah, "Emergence of Novel WEDEX-Kerberotic Cryptographic Frame-work to Strengthen the Cloud Data Security against Malicious Attacks", *MDPI-Symmetry*, 2024. **(Impact Factor = 2.70) (SCI- HEC- W Category)**
3. S. W. Zahra, M. Nadeem, A. Arshad, **S. Riaz**, M. Abu Bakr, A. K. Dutta, Z. Alzaid, B. Almutairi, S. Almotairi, "An Innovative Approach Using TKN-Cryptology for Identifying the Replay Assault", *CMC-Computers, Materials & Continua*, 2023. **(Impact Factor = 3.860) (SCI- HEC- W Category)**
4. F. Sajjad, M. Rashid, A. Zafar, K. Zafar, B. Fida, A. Arshad, **S. Riaz**, A.K. Dutta, J.J. Rodrigues, "An efficient hybrid approach for optimization using simulated annealing and grasshopper algorithm for IoT applications", *Discover Internet of Things*, vol. 3, 2023.
5. A. Arshad, M. Nadeem, **S. Riaz**, A. Alruban, S.W Zahra, A. K. Dutta, Z. Alzaid R. Alabdan, B. Almutairi, S. Almotairi, "Hill Matrix and Radix-64 Bit Algorithm to Preserve Data Confidentiality", *CMC-Computers, Materials & Continua*, 2023. **(Impact Factor = 3.860) (SCI- HEC- W Category)**
6. **S. Riaz**, A. Arshad, Shahab S.Band and A. Mosavi, "Deep Bimodal Fusion Approach for Apparent Personality Analysis", *CMC-Computers, Materials & Continua*, 2023. **(Impact Factor = 3.778) (SCI- HEC- W Category)**
7. Zahra, S.W.; Arshad, A.; Nadeem, M.; **Riaz, S.**; Dutta, A.K.; Alzaid, Z.; Alabdan, R.; Almutairi, B.; Almotairi, S. Development of Security Rules and Mechanisms to Protect Data from Assaults. *Appl. Sci.* 2022, 12, 12578. **(Impact Factor = 2.838) (SCI- HEC- W Category)**
8. A. Zafar, M. Aamir, N. M Nawawi, A. Arshad, **S. Riaz**, A. Alruban, A. K. Dutta, B. Almutairi, S. Almotairi, "An Optimization Approach for Convolutional Neural Network Using Non-Dominated Sorted Genetic Algorithm-II", *CMC-Computers, Materials & Continua*, 2022. **(Impact Factor = 3.860) (SCI- HEC- W Category)**
9. Nadeem, M.; Arshad, A.; **Riaz, S.**; Zahra, S.W.; Dutta, A.K.; Alruban A.; Almutairi, B.; Almotairi, S. Two-Layer Security Algorithms to Prevent Attacks on Data in Cyberspace. *Appl. Sci.* 2022, 12, 19, 9736 **(Impact Factor = 2.838) (SCI- HEC- W Category)**
10. M. Nadeem, A. Arshad, **S. Riaz**, S.W Zahra, Ashit Kumar Dutta, Moteeb Al Moteri and Sultan Almotairi, "An Efficient Technique to Prevent Data Misuse with Matrix Cipher Encryption Algorithms", *CMC-Computers, Materials & Continua*, 2022. **(Impact Factor = 3.778) (SCI- HEC- W Category)**
11. Zafar A, Aamir M, Mohd Nawawi N, Arshad A, **Riaz S**, Alruban A, Dutta AK, Almotairi S. A Comparison of Pooling Methods for Convolutional Neural Networks. *Appl. Sci.* 2022, 12, 17, 8643 **(Impact Factor = 2.838) (SCI- HEC- W Category)**
12. Nadeem, M.; Arshad, A.; **Riaz, S.**; Zahra, S.W.; Dutta, A.K.; Almotairi, S. A Secure Architecture to Protect the Network from Replay Attacks during Client-to-Client Data Transmission. *Appl. Sci.* 2022, 12, 16, 8143 **(Impact Factor = 2.838) (SCI- HEC- W Category)**
13. Nadeem, M.; Arshad, A.; **Riaz, S.**; Zahra, S.W.; Dutta, A.K.; Almotairi, S. Preventing the Cloud Networks through Semi-Supervised Clustering from both sides attacks. *Appl. Sci.* 2022, 12, 7583 **(Impact Factor = 2.838) (SCI- HEC- W Category)**
14. M. Nadeem, A. Arshad, **S. Riaz**, S.W Zahra, S. Band, A. Mosavi, "Two Layer Symmetric Cryptography Algorithm for Protecting Data from Attacks", *CMC-Computers, Materials & Continua*, 2022. **(Impact Factor = 3.778) (SCI- HEC- W Category)**
15. M. Nadeem, A. Arshad, **S. Riaz**, S.W Zahra, S. Band, A. Mosavi, "Preventing Cloud Network from

- Spamming Attacks using Cloudflare and KNN", *CMC-Computers, Materials & Continua*, 2022. **(Impact Factor = 3.778) (SCI- HEC- W Category)**
16. **S. Riaz**, A. Arshad, Shahab S.Band and A. Mosavi, "Transforming Hand Drawn Wireframes into Front-End Code with Deep Learning", *CMC-Computers, Materials & Continua*, 2022. **(Impact Factor = 3.778) (SCI- HEC- W Category)**
  17. M. Nadeem, A. Arshad, **S. Riaz**, S. S. Band and A. Mosavi, "Intercept the Cloud Network From Brute Force and DDoS Attacks via Intrusion Detection and Prevention System," in *IEEE Access*, vol. 9, pp. 152300-152309, 2021. **(Impact Factor = 3.476) (SCI- HEC- W Category)**
  18. **S. Riaz**, A. Arshad and L. Jiao, "A Semi-Supervised CNN With Fuzzy Rough C-Mean for Image Classification," in *IEEE Access*, vol. 7, pp. 49641-49652, 2019 **(Impact Factor = 3.476) (SCI- HEC- W Category)**
  19. A. Arshad, **S. Riaz** and L. Jiao, "Semi-Supervised Deep Fuzzy C-Mean Clustering for Imbalanced Multi-Class Classification," in *IEEE Access*, vol. 7, pp. 28100-28112, 2019 **(Impact Factor = 3.476) (SCI- HEC- W Category)**
  20. **Riaz S**, Arshad A, Jiao L. "Fuzzy Rough C-Mean Based Unsupervised CNN Clustering for Large- Scale Image Data", *Applied Sciences*, 2018. **SCI (Impact Factor = 2.838) (SCI- HEC- W Category)**
  21. A. Arshad, **S. Riaz**, L. Jiao and A. Murthy, "The Empirical Study of Semi-Supervised Deep Fuzzy C-Mean Clustering for Software Fault Prediction," in *IEEE Access*, vol. 6, pp. 47047-47061, 2018. **(Impact Factor = 3.476) (SCI- HEC- W Category)**
  22. **S. Riaz**, A. Arshad and L. Jiao, "Rough Noise-Filtered Easy Ensemble for Software Fault Prediction," in *IEEE Access*, vol. 6, pp. 46886-46899, 2018 **(Impact Factor = 3.476) (SCI- HEC- W Category)**
  23. A. Arshad, **S. Riaz**, L. Jiao and A. Murthy, "Semi-Supervised Deep Fuzzy C-Mean Clustering for Software Fault Prediction," in *IEEE Access*, vol. 6, pp. 25675-25685, 2018 **(Impact Factor = 3.476) (SCI- HEC- W Category)**

## Articles Published in Conferences

1. A. Arshad, M. Hassam, **S. Riaz** and S. Shamshirband, "Empirical Study of Semi-Supervised Deep Fuzzy C-Mean Clustering Algorithm", IEEE 19th International Conference on Smart Technologies (**EUROCON**), Ukraine, 2021.
2. **S. Riaz**, A. Arshad and L. Jiao, "Rough-KNN Noise-Filtered Convolutional Neural Network for Image Classification," 3rd International Conference on Information Technology and Intelligent Transportation Systems (**ITITS 2018**), Xi'an, China 2018. (Available on Ei Compendex)
3. A. Arshad, **S. Riaz**, L. Jiao and A. Murthy, "A semi-supervised deep fuzzy C-mean clustering for two classes classification," 2017 IEEE 3rd Information Technology and Mechatronics Engineering Conference (**ITOEC 2017**), Chongqing, China 2017. (Available on IEEE Xplore)

## SKILLS

- MATLAB,
- Python
- Mathematica,
- Scientific Workplace,
- MS office
- SPSS

## REFERENCES

### **Prof. Dr. Shoab Khan**

Chancellor & Professor, SS-CASE-IT, Islamabad, Pakistan.

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### **Dr. Syed Aziz Shah**

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### **Dr Sultan Daud**

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