Shahin Ara Begum

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Google Scholar

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Professional Membership

Member, IEEE

ExeCom Member, IEEE Silchar Subsection

Life Member, Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI)

Life (Senior) Member, Computer Society of India (CSI)

Life Member, Indian Statistical Institute (ISI), Kolkata

Member, Advisory Board, IJBST Journal Group

Life Member, Assam Science Society, Assam

Life Member, Barak Education Society, Silchar, Assam

Shahin Ara Begum is Professor in the Computer Science Department at Assam University. She received her M. Sc. from Jamia Millia Islamia, New Delhi, in Mathematics with Computer Science and her Ph. D. in Computer Science from Assam University.

Her research interests span Artificial Intelligence, Machine Learning, Soft Computing Techniques, Data Mining, Data Analytics, Image Processing, Deep Learning, and Case-based Reasoning. She works on the convergence of the areas of Fuzzy Logic, Artificial Neural Networks, Rough Sets, and other Soft Computing Techniques to address real-world complexities. Her focus is on investigating the use of Hybrid and Ensemble-based Soft Computing methods to solve real-life problems.

Academic Appointments

Professor, Assam University (2016 - present)
Associate Professor, Assam University
Reader, Assam University
Lecturer, Assam University

JOURNAL

1. Gogoi M., Kumar V., Begum S. A., Sharma N., Kant S. (2023). Classification and Detection of Rice Diseases Using a 3-Stage CNN Architecture with Transfer Learning Approach. Agriculture. 2023; 13(8):1505. https://doi.org/10.3390/agriculture13081505 [WoS SCIE, Scopus]

2. Munmi Gogoi and Shahin Ara Begum (2022), Progressive 3-Layered Block Architecture for Image Classification, International Journal of Advanced Computer Science and Applications (IJACSA), 13(3), 2022. ISSN: 2156-5570 (Online) ISSN: 2158-107X (Print) [WoS ESCI, Scopus], CiteScore 2020 1.1 http://dx.doi.org/10.14569/IJACSA.2022.0130360

3. Ananya Gupta, Shahin Ara Begum (2020), An Empirical Evaluation of the State of Art Feature Selection Methods for Text Categorization, International Journal of Scientific & Technology Research, Vol. 9, Issue 02, pp. 6113-6122, February 2020, ISSN 2277-8616 [Scopus] CiteScore 0.2 http://www.ijstr.org/final-print/feb2020/An-Empirical-Evaluation-Of-The-State-Of-Art-Feature-Selection-Methods-For-Text-Categorization.pdf

4. Ananya Gupta, Shahin Ara Begum (2019). Efficient multi-cluster feature selection on text data, Journal of Information and Optimization Sciences, Vol. 40(8), pp. 1583-1598, Taylor and Francis, ISSN: 0252-2667 (Print) 2169-0103 (Online) [WoS ESCI] DOI: 10.1080/02522667.2019.1703259 https://www.tandfonline.com/doi/abs/10.1080/02522667.2019.1703259

5. Gogoi, M., Begum, S. A. (2019). Optimizing Deep Network for Image Classification with Hyperparameter Tuning, International Journal of Engineering and Advanced Technology (IJEAT), ISSN 2249-8958, Vol. 9 Issue 2 pp. 2264-2269 [Scopus] https://www.ijeat.org/wp-content/uploads/papers/v9i2/B3515129219.pdf

6. Paswan, R. P., Begum, S. A., Hemochandran, L. (2018). GA-ANN hybrid model for prediction of area and crop production, International Journal of Agricultural & Statistical Sciences, 14(1), ISSN 09731903, 1.8 CiteScore 2022 [Scopus]

7. Nabanita Choudhury and Shahin Ara Begum (2017), The Role of Fuzzy Logic in Case-based Reasoning: A Survey, Indian Journal of Computer Science and Engineering, Vol. 8, No. 3, 2017, pp. 333-340, ISSN: 0976-5166 [Scopus, UGC approved Journal No. 15559] http://www.ijcse.com/docs/INDJCSE17-08-03-150.pdf

8. Nabanita Choudhury and Shahin Ara Begum (2016), A Survey on Case-based Reasoning in Medicine, *International Journal of Advanced Computer Science and Applications* (*IJACSA*), Vol. 7, No. 8, 2016, pp. 136-144, ISSN: 2156-5570 [WoS ESCI], DOI : 10.14569/IJACSA.2016.070820

BOOK CHAPTER

1. Gupta, A., Begum, S.A. (2023). Fuzzy Rough Set-Based Feature Selection for Text Categorization. In: Som, T., Castillo, O., Tiwari, A.K., Shreevastava, S. (eds.) *Fuzzy, Rough and Intuitionistic Fuzzy Set Approaches for Data Handling*. Forum for Interdisciplinary Mathematics. Springer, Singapore. [Scopus] https://doi.org/10.1007/978-981-19-8566-9_4

2. Gupta, A., Begum, S.A. (2023). An Anchor-Based Fuzzy Rough Feature Selection for Text Categorization. In: Kumar, A., Senatore, S., Gunjan, V.K. (eds.) ICDSMLA 2021. *Lecture Notes in Electrical Engineering*, vol. 947. Springer, Singapore. [Scopus] https://doi.org/10.1007/978-981-19-5936-3_26

3. Choudhury N., Begum S.A. (2020), Neuro-Fuzzy-Rough Classification for Improving Efficiency and Performance in Case-Based Reasoning Retrieval. In Proceedings of the *1st International Conference on Recent Advances and Applications in Computer Engineering* (RAACE-2017), 29–38, In: Pant M., Sharma T., Basterrech S., Banerjee C. (eds.) Computational Network Application Tools for Performance Management. Asset Analytics (Performance and Safety Management). Springer, Singapore, DOI https://doi.org/10.1007/978-981-32-9585-8_4. Print ISBN 978-981-32-9584-1, Online ISBN 978-981-32-9585-8 https://link.springer.com/chapter/10.1007/978-981-32-9585-8_4

4. Gupta, A., Begum, S.A. (2019). A Comparative Study on Feature Selection Techniques for Multi-cluster Text Data. In: Yadav, N., Yadav, A., Bansal, J., Deep, K., Kim, J. (eds.) Harmony Search and Nature Inspired Optimization Algorithms. *Advances in Intelligent Systems and Computing*, vol. 741. Springer, Singapore. [Scopus] CiteScore 0.9 https://doi.org/10.1007/978-981-13-0761-4_21

CONFERENCE PROCEEDING

1. S. W. Masood and S. A. Begum (2022). Comparison of Resampling Techniques for Imbalanced Datasets in Student Dropout Prediction, *2022 IEEE Silchar Subsection Conference (SILCON)*, Silchar, India, 2022, pp. 1-7, [Scopus] doi: 10.1109/SILCON55242.2022.10028915.

2. P. S. Bhattacharjee, A. K. Md Fujail and S. A. Begum (2017). A Comparison of Intrusion Detection by K-Means and Fuzzy C-Means Clustering Algorithm Over the NSL-KDD Dataset, *IEEE International Conference on Computational Intelligence and Computing Research (ICCIC)*, Coimbatore, India, 2017, pp. 1-6, [Scopus] doi: 10.1109/ICCIC.2017.8524401.

3. M. Gogoi and S. A. Begum (2017). Image Classification Using Deep Autoencoders, *2017 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC)*, Coimbatore, India, pp. 1-5, [Scopus] doi: 10.1109/ICCIC.2017.8524276.

4. T. C. Meetei and S. A. Begum (2016), A variant of cancelable iris biometric based on BioHashing, *International Conference on Signal and Information Processing (IConSIP)*, India, 2016, pp. 1-5, doi: 10.1109/ICONSIP.2016.7857435.

5. A. I. Mozumder and S. A. Begum (2016). An efficient approach towards iris recognition with modular neural network match score fusion, *IEEE International Conference on Computational Intelligence and Computing Research (ICCIC)*, Chennai, India, 2016, pp. 1-6, [Scopus] doi: 10.1109/ICCIC.2016.7919715.

6. Mazumder, R.U., Begum, S.A., Biswas, D. (2015). Rough Fuzzy Classification for Class Imbalanced Data. In: Das, K., Deep, K., Pant, M., Bansal, J., Nagar, A. (eds) Proceedings of *Fourth International Conference on Soft Computing for Problem Solving. Advances in Intelligent Systems and Computing*, vol. 335. Springer, New Delhi. [Scopus] https://doi.org/10.1007/978-81-322-2217-0_14

7. Md Fujail, A.K., Begum, S.A., Barbhuiya, A.K. (2015). Neuro-genetic Approach to Predict Scour Depth around Vertical Bridge Abutment. In: Das, K., Deep, K., Pant, M., Bansal, J., Nagar, A. (eds.) Proceedings of Fourth *International Conference on Soft Computing for Problem Solving. Advances in Intelligent Systems and Computing*, vol. 335. Springer, New Delhi. [Scopus] https://doi.org/10.1007/978-81-322-2217-0_13

8. A. I. Mozumder and S. A. Begum (2015). Iris Segmentation using Adaptive Histogram Equalization and median filtering, *International Symposium on Advanced Computing and Communication (ISACC)*, Silchar, India, pp. 244-250, [Scopus] doi: 10.1109/ISACC.2015.7377349.

9. R. P. Paswan and S. A. Begum (2014). ANN for prediction of Area and Production of Maize crop for Upper Brahmaputra Valley Zone of Assam, *IEEE International Advance Computing Conference (IACC)*, Gurgaon, India, 2014, pp. 1286-1295, [Scopus] doi: 10.1109/IAdCC.2014.6779513.

10. R. P. Paswan and S. A. Begum (2013). MLP for prediction of area and rice production of upper Brahmaputra Valley zone of Assam, *Fourth International Conference on Computing, Communications and Networking Technologies (ICCCNT)*, Tiruchengode, India, pp. 1-9, [Scopus] doi: 10.1109/ICCCNT.2013.6726750.

11. T. C. Meetei and S. A. Begum (2013). Performance evaluation of feature selection methods for ANN based iris recognition, *1st International Conference on Emerging Trends and Applications in Computer Science*, Shillong, India, pp. 208-213, [Scopus] doi: 10.1109/ICETACS.2013.6691424.

12. O. Mema Devi and S. A. Begum (2013), A new cluster validity index for type-2 fuzzy c-means algorithm, *International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, Mysore, India, pp. 2049-2056, [Scopus] doi: 10.1109/ICACCI.2013.6637497.

13. S. A. Begum, A. K. M. Fujail and A. K. Barbhuiya (2011). Radial basis function to predict scour depth around bridge abutment, *2nd National Conference on Emerging Trends and Applications in Computer Science*, Shillong, India, 2011, pp. 1-7, [Scopus] doi: 10.1109/NCETACS.2011.5751387.

14. S. A. Begum, B. S. Purkayastha, A. Chakrabarty and T. Som (2009). An efficient psFCM Clustering Algorithm, *IEEE International Advance Computing Conference*, Patiala, India, pp. 1393-1399, [Scopus] doi: 10.1109/IADCC.2009.4809220.

RESEARCH GROUP

- Sheikh Wakie Masood
- Abhijit Nath
- Nilanjana Das
- Abir Dasgupta

PH. D. SUPERVISION (DEGREE AWARDED)

- Munmi Gogoi, A Study of Deep Learning Networks for Image Classification
- Ananya Gupta (2022), An Investigation into Feature Selection Techniques for Classification and Clustering
- Nabanita Choudhury (2021), An Investigation of Soft Computing Based Techniques for Case-based Reasoning
- Partha Sarathi Bhattacharjee (2020), Fuzzy Data Mining for Intrusion Detection
- Arif Iqbal Mozumder (2018), Hybrid Algorithms for Iris Recognition
- Ranjan Sarmah (2018), Artificial Neural Network Approach in Building Predictive Models for siRNA mediated Gene Silencing of various Plant Pathogens [Prof. M. K. Modi, Assam Agricultural University, Jorhat, Assam, Co-Supervisor]
- Thiyam Churjit Meetei (2016), Design Approaches for Multibiometric Systems
- Abul Kashim Md. Fujail (2016), Soft Computing Methodologies and its Applications to Estimate Local Scour at Bridge Abutment, 2016 [Prof. A. K. Barbhuiya, NIT, Silchar, Assam, Co-Supervisor]
- Raju Prasad Paswan (2015), Artificial Neural Network for Prediction of Area and Crop Production Across Different Agro-Climatic Zones of Assam
- Riaj Uddin Mazumder (2015), Rough Fuzzy Set Approach to Feature Selection and Classification, 2015 [Prof. D. Biswas, Assam University, Co-Supervisor]
- O. Mema Devi (2014), Investigation of Fuzzy Pattern Recognition Techniques for Medical Diagnosis

Conference/Workshop/Webinar Activities

- *Programm Chair* at IEEE Silchar Subsection Conference (IEEE SILCON-2023), 3-5 November 2023, NIT Silchar
- *Programm Chair* at IEEE Silchar Subsection Conference (IEEE SILCON-2022), 4-6 November 2022, NIT Silchar
- *Session Chair* at IEEE Silchar Subsection Conference (IEEE SILCON-2022), 4-6 November 2022, NIT Silchar
- *Convener*, Physical Sciences Research Conclave Sc.RECON-1.0., Organized by the Albert Einstein School of Physical Sciences, Assam University, Silchar, 26 March 2022
- *Coordinator*, Webinar on Data-driven Predictive Analytics, 5-6 August 2020 organized by Department of Computer Science, Assam University, Silchar
- *Coordinator*, Online QUIZ on COVID-19, jointly organized by the Department of Chemistry and Department of Computer Science, Assam University, Silchar, 2020
- *Faculty Coordinator*, Tech-Fest 2019, Department of Computer Science, Assam University
- *Session Chair* at IEEE International Conference on Computational Intelligence and Computing Research (2017 IEEE ICCIC), Coimbatore, December 14-16, 2017
- *Faculty Coordinator*, Student National Network Security Championship 2014-2015, in association with E-cell IIT Bombay, at Assam University
- *Convener*, 3-day National Conference on Current Trends in Computer Science (CTCS 2010), 22-24 February 2010, at Assam University, Silchar, sponsored by Ministry of DST, DIT and DoNER, GOI, and Assam University

Invited Presentations

- Invited-Talk, Entrepreneurship Capacity Building Program, organized by Ministry of Electronics and Information Technology (Meity), Govt. of India Project (IGNTU- Central University) Amarkantak (M.P.), 26 November 2022
- Invited Speaker, International Webinar on Role of Artificial Intelligence in Automation, organized by School of Innovation and Technology, Assam Rajiv Gandhi University of Cooperative Management, 21-23 July 2020
- Invited Speaker, Webinar on Data-driven Predictive Analytics, organized by the Department of Computer Science, Assam University, Silchar, 5-6 August 2020
- Invited Speaker, Webinar on Distance and Online Education in the backdrop of COVID-19: Issues and Challenges, organized by Regional Computer Lab (RCL), Agartala Regional Centre, IGNOU, 19 July 2020
- Invited Speaker, Two Days National Workshop on ICT Orientation for Sanskrit and other Indian Language Studies, organized by the Department of Sanskrit, Assam University, Silchar, 26-27 September 2019
- Invited Speaker, Workshop on Academic Administration, organized by IQAC, Assam University, 22-25 September 2017
- Invited Speaker, Northeast ISI (ACMU) - AUS Winter School on Graph Algorithms with special focus on Networks and VLSI, at Assam University, 22-24 February 2016
- Invited Speaker, Five Days Training Programme on Hands-on Training of Teachers on Integration of ICT in Teaching Learning of Science and Mathematics, organized by the Department of Education in Science and Mathematics, NCERT, New Delhi, 18 March 2015

Other Credentials/Significant Contributions

- Head, Department of Computer Science, Assam University, Silchar (1st April 2022 – present)
- Chair, Board of Postgraduate Studies (BPGS), Department of Computer Science, Assam University, Silchar, Assam (2022-present)
- Chair, Board of Undergraduate Studies (BPGS), Department of Computer Science, Assam University, Silchar, Assam (2022-present)
- Chair, ICT Data Centre and HPC facility, Assam University Silchar (2022-present)
- Member, Academic Council, Assam University, Silchar, Assam (2008-2009, 2021-present)
- INSA Teachers Award Nominee of Assam University, Silchar, 2018
- Invited Member, Executive Council, Assam University, Silchar (2016-2018)
- Member, Departmental Post Graduate Programme Committee (DPPC), Department of CSE, Triguna Sen School of Technology, Assam University, Assam (2015-2018)
- Member, Standing Committee for Academic Council, Assam University, Silchar, Assam (2010-2013)
- Member, Board of Studies, Department of Mathematics and Computer Science, Mizoram University, Aizawl, India, (2010-2013)
- Member, Board of Postgraduate Studies (BPGS), Department of Economics, Assam University, Silchar, Assam (2014-2017)
- Member, Board of Postgraduate Studies (BPGS), Department of Arabic, Assam University, Silchar, Assam (2011- 2014, 2014-2017, 2017-2020, 2021-present)
- Member, Board of Postgraduate Studies (BPGS), Department of Computer Science, Assam University, Silchar, Assam (2012-2015)
- Member, School Board of the Albert Einstein School of Physical Sciences, Assam University, Silchar, Assam (2003-2005, 2011-2013, 2016-2018)
- Member, School Board of the Mahatma Gandhi School of Economics and Commerce, Assam University, Silchar, Assam (2013-2015)
- Member, Board of Undergraduate Studies (BUGS), Department of Pharmaceutical Sciences, Assam University, Silchar, Assam (2012-2015)
- Member, Sports Board, Assam University, Silchar, Assam (2012)
- Received, DST, GOI, Travel Support to Attend 6th International Symposium on Advances in Science & Technology (SASTech 2012), 24-25 March 2012, Kuala Lumpur, Malaysia
- Received Best paper presentation award, 6th International Symposium on Advances in Science & Technology (SASTech 2012), 24-25 March 2012, Kuala Lumpur, Malaysia
- Expert Member, Selection Committee, for Selection of Various Teaching and Technical Post
- Reviewer, Journal of Applied Soft Computing, Elsevier
- Founding faculty member of the Department of Computer Science, Assam University, Silchar