Dr. Mukta Majumder

Ph.D, M. Tech, B. Tech

Assistant Professor
Department of Computer Science & Technology,
University of North Bengal
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Teaching Experience: 9^+ Years

1. Assistant Professor, Department of Computer Centre, Vidyasagar University, Midnapore, West Bengal, India, from 22/12/2014 to 17/10/2017.
2. Assistant Professor, Department of Computer Science & Technology, University of North Bengal, Siliguri, West Bengal, India, from 18/10/2017 to present.

Research Interest:

Natural Language Processing, Machine Learning, ICT Based Teaching-Learning & Assessment, Microfluidic System & Digital Biochip etc.

Subject Specialization:

Natural Language Processing, E-Commerce, Software Engineering, Graph Theory.

Invited Talk

1. **Natural Language Processing and Educational Application**, One Week Faculty Development Program on "Computational Intelligence Techniques for Machine Learning", at Jaypee University of Information Technology, Waknaghat-173234, 31st August to 5th September 2020.
2. One day webinar on **Application of Natural Language Processing in Education Technology**, 22nd August 2020 in collaboration with Department of Computer Science and Engineering, Sister Nivedita University, New Town, Kolkata.

Ph.D Thesis Supervised:

Name of Scholar	Area of Research	Institute where Registered	Status
Dr. Bidyut Das	Test Item Generation from Course Materials (Text & Image)	WBUT, Joint Supervision with Dr. Santanu Phadikar	Awarded (2022)
Rakesh Dutta	Text Classification & Sentiment Analysis by Deep Learning	NBU	Ongoing
Basudev Saha	Microfluidic Biochip	NBU	Ongoing

M. Tech Thesis Supervised: 1

Member of Professional Bodies:

ACL (Association for Computational Linguistics): Category- Faculty Member

Reviewer of Journal

1. Educational Research (ISSN:2141-5161)
   [http://www.interesjournals.org/ER]
2. E-Learning and Digital Media, **SAGE** (ISSN: 20427530)
   [http://ldm.sagepub.com/]
3. IETE Journal of Research, **Taylor & Francis** (ISSN: 0377-2063, e-ISSN: 0974-780X)
   [http://www.tandfonline.com/loi/tijr20]
4. Computer Applications in Engineering Education, **Wiley** (Online ISSN:1099-0542)
   [https://onlinelibrary.wiley.com/journal/10990542]
5. EAI Endorsed Transactions on Pervasive Health and Technology, **EAI Publications**, (ISSN: 2411-7145)
   [https://eudl.eu/journal/phat]
6. Intelligent Decision Technologies, **IOS Press** (ISSN print: 1872-4981, e-ISSN: 1875-8843)
   [https://www.iospress.nl/journal/intelligent-decision-technologies/]
7. CAAI Transactions on Intelligence Technology, **IET & Wiley** (Online ISSN: 2468-2322)
   [https://ietresearch.onlinelibrary.wiley.com/journal/24682322]
8. Journal of Ambient Intelligence and Humanized Computing, **Springer** (ISSN: 1868-5137)
   [https://www.springer.com/journal/12652]
9. International Journal of Computers and Applications, **Taylor & Francis** (ISSN: 1206-212X)
   [https://www.tandfonline.com/journals/tjca20]
10. Journal of King Saud University - Computer and Information Sciences, **Elsevier** (ISSN: 1319-1578)
    [https://www.sciencedirect.com/journal/journal-of-king-saud-university-computer-and-information-sciences]
11. Natural Language Engineering, **Cambridge University Press** (ISSN: 1351-3249)
    [https://www.cambridge.org/core/journals/natural-language-engineering]
12. Computer Science (ISSN: 1508-2806)
    [https://journals.agh.edu.pl/csci]
13. Knowledge and Information Systems, **Springer** (ISSN: 0219-1377)
    [https://link.springer.com/journal/10115]

Member of Program Committee and Reviewer of Conference

1. International Conference on Electrical, Electronics and Mechatronics (ICEEM 2015)
2. International Conference on Fuzzy Systems and Data Mining (FSDM 2016, 2017, 2018, 2022)
3. International Conference on Communication, Devices and Computing (ICCDC 2017)
4. First International Conference on Advanced Computational and Communication Paradigms (ICACCP 2017)
5. 2nd International Conference on Intelligent and Cloud Computing (ICICC-2021)
6. International Symposium on Artificial Intelligence (ISAI-2022)
7. 2nd International Conference on Network Security and Blockchain Technology (ICNSBT 2023)

Publications: 32, Journals – **21**, International Conferences Proceedings and Book Chapters – **11**

(a) Paper published/Accepted in Journals (Selected: SCI/SCIE/SSCI/ESCI (Web of Science)/Scopus Indexed only)

1. Das, B., **Majumder, M.**, Phadikar, S., & Sekh, A. A. (2023). Biomedical term extraction using fuzzy association. Soft Computing, 1-9, **Springer** [**Impact Factor: 3.7**].
2. Saha, B., Das, B., & **Majumder, M.** (2023). A deep-reinforcement learning approach for optimizing homogeneous droplet routing in digital microfluidic biochips. Nanotechnology and Precision Engineering (NPE), 6(2), 023001-1–023001-12, **AIP Publishing** [**Impact Factor: 3.1**].
3. Dutta, R., Das, N., **Majumder, M.**, & Jana, B. (2023). Aspect based sentiment analysis using multi-criteria decision-making and deep learning under COVID-19 pandemic in India. CAAI Transactions on Intelligence Technology, 8(1), 219-234, **Wiley** [**Impact Factor: 5.1**].
4. Das, B., Pal, R., **Majumder, M.**, Phadikar, S., & Sekh, A. A. (2023). A visual attention-based model for bengali image captioning. SN Computer Science, 4(2), 208, **Springer.**
5. Das, B., **Majumder, M.**, Sekh, A. A., & Phadikar, S. (2022). Automatic Question Generation and Answer Assessment for Subjective Examination. Cognitive Systems Research, 72, 14-22, **Elsevier** [**Impact Factor: 3.9**].

6. Dutta R., **Majumder M**. (2022). Attention-based Bidirectional LSTM with Embedding Technique for classification of COVID-19 articles. Intelligent Decision Technologies, 16 (1), 205-215, **IOS Press** [**Impact Factor: 1.0**].

7. Das, B., **Majumder, M**., Phadikar, S., & Sekh, A. A. (2021). Multiple-choice question generation with auto-generated distractors for computer-assisted educational assessment. Multimedia Tools and Applications, 80, 1-19, **Springer** [**Impact Factor: 3.1**].

8. Das, B., **Majumder, M.**, Phadikar, S., & Sekh, A. A. (2021). Automatic question generation and answer assessment: a survey. Research and Practice in Technology Enhanced Learning, 16(1), 1-15, **Springer** [**Impact Factor: 3.2**].

9. Das, B., Sekh, A. A., **Majumder, M.**, & Phadikar, S. (2021). Can deep learning solve a preschool image understanding problem? *Neural Computing and Applications*, *33*(21), 14401-14411, **Springer** [**Impact Factor: 5.6**]

10. Maity, S., Das, N., **Majumder, M.**, & Dasadhikary, D. R. (2021). Word Embedding and String-Matching Techniques for Automobile Entity Name Identification from Web Reviews. EAI Transactions on Scalable Information Systems, 8, e10. [**Impact Factor: 1.3**]

11. Saha, B., & **Majumder, M**. (2021). An optimized knight traversal technique to detect multiple faults and Module Sequence Graph based reconfiguration of microfluidic biochip. IET Computers & Digital Techniques, 15(1), 1-11, **Wiley**. [**Impact Factor: 1.2**]

12. Saha, S.K., Prakash, A. & **Majumder, M.** (2019). "Similar query was answered earlier": processing of patient authored text for retrieving relevant contents from health discussion forum. Health information science and systems, **7** (4), 1-9, **Springer** [**Impact Factor: 5.7**]

13. Das, B., **Majumder, M**., Phadikar, S., & Sekh, A. A. (2019). Automatic generation of fill-in-the-blank question with corpus-based distractors for e-assessment to enhance learning. Computer Applications in Engineering Education, 27(6), 1485-1495, **Wiley [Impact Factor: 2.9]**

14. Saha, A., & **Majumder, M**. (2019). An efficient technique for double faults detection and their locations identification in digital microfluidic biochip. International Journal of Automation and Smart Technology, 9(2), 65-75.

15. Saha, S.K., & **Majumder, M.** (2018). Development of a Hindi Named Entity Recognition System without Using Manually Annotated Training Corpus. International Arab Journal of Information Technology, 15 (6), pp. 1088-1098 [**Impact Factor: 1.2**]

16. Das, B., **Majumder, M.,** & Phadikar, S. (2018). A Novel System for Generating Simple Sentences from Complex and Compound Sentences. International Journal of Modern Education and Computer Science, 10(1), pp. 57-64.

17. Das, B., & **Majumder, M.** (2017). Factual open cloze question generation for assessment of learner's knowledge. *International Journal of Educational Technology in Higher Education*, *14*, 1-12. **Springer [Impact Factor 9.4**]

18. **Majumder, M., &** Saha, S.K. (2014). Automatic Selection of Informative Sentences: The Sentences That Can Generate Multiple Choice Questions. Knowledge Management & E-Learning**,** 6 (4), pp. 377-391 **[Impact Factor: 2.4]**

19. **Majumder, M.**, & Saha, S. K. (2014). Use of global context for handling noisy names in discussion texts of a homeopathy discussion forum. *Knowledge Management & E-Learning*, *6*(1), pp. 18-29, **[Impact Factor: 2.4]**

20. **Majumder, M.**, Das, N., & Saha, S. K. (2013). A novel technique for multiple faults and their locations detection and start electrode selection in microfluidic digital biochip. *Journal of Innovative Optical Health Sciences*, *6*(04), pp. 1350032-1–1350032-8, **World Scientific [Impact Factor: 2.5]**

(b) Paper published/Accepted in International Conferences and Book Chapters (Selected)

1. Dutta, R., Das Adhikary, D. R., & **Majumder, M.** (2022). A Deep Learning Model for Classification of COVID-19 Related Fake News. In Electronic Systems and Intelligent Computing: Proceedings of ESIC, pp. 449-456. **Singapore: Springer Nature Singapore.**

2. Dey, T., Dey, J., Ghosh, A., Ghosh, S. K., **Majumder, M.**, Mondal, S., & Ghosh, A. (2022). Name Entity Recognition on Covid-19 Dataset using Machine Learning algorithms. In 2022 International Conference on Machine Learning, Computer Systems and Security (MLCSS), pp. 301-306. **IEEE.**

3. Das, B., Sekh, A. A., **Majumder, M.**, & Phadikar, S. (2021). Abid: Attention-based bengali image description. In *International Conference on Communication, Devices and Computing,* pp. 305-314. Singapore: **Springer Nature Singapore**.

4. Dutta, R., Jana, B., & **Majumder, M.** (2020). Semantic Similarity and Word-Net Based Web News Classification. In Intelligent Techniques and Applications in Science and Technology: Proceedings of the First International Conference on Innovations in Modern Science and Technology 1, pp. 728-735. **Springer International Publishing**.

5. Dutta, R., Jana, B., & **Majumder M**. (2017). Representation and Exploring the Semantic Organization of Bangla Word in the Mental Lexicon: Evidence from Cross-Modal Priming Experiments and Vector Space Model. In Communication, Devices, and Computing, pp. 273-281. **Springer**.

6. Dutta, R., Jana, B., & **Majumder, M.** (2017). Exploring the semantic organization of Bangla words in the mental lexicon. *Procedia computer science*, *115*, 556-562. **Elsevier**

7. **Majumder, M.**, Dolai, U., & Bhattacharya, A. (2017). An efficient novel single fault and its location detection technique using multiple droplets in a digital microfluidic biochip. In 2017 11th International Conference on Intelligent Systems and Control (ISCO), pp. 119-124. **IEEE.**

8. **Majumder, M**., & Saha, S. K. (2015). A system for generating multiple choice questions: With a novel approach for sentence selection. In Proceedings of the 2nd workshop on natural language processing techniques for educational applications, pp. 64-72. **ACL.**

9. **Majumder, M**., Barman, U., Prasad, R., Saurabh, K., & Saha, S. K. (2012). A novel technique for name identification from homeopathy diagnosis discussion forum. Procedia Technology, 6, 379-386. **Elsevier.**

10. **Majumder, M**., Ray, S., & Roy, S. (2011). A multi droplets detection technique for single-fault in digital micro-fluidic biochip. In International Conference on Computational Intelligence and Information Technology, pp. 506-511. Berlin, Heidelberg: **Springer Berlin Heidelberg**.

Professional Development Program and Workshop Attended:

1. Short term course on Advance Algorithms and their Applications, Indian School of Mines, Dhanbad, 2nd to 5th April 2012

2. Short Term Training Program on Basic Matlab, Birla Institute of Technology, Mesra, Ranchi, 24th June to 1st July 2013

3. Text Mining Workshop 2014, ISI, Kolkata, India, 6th to 8th January 2014

4. Training Program on Teaching With Technology, Conducted by Microsoft at Vidyasagar University, 1st to 9th October 2015.

5. MHRD Sponsored One-day training programme to upload data in "All India Survey on Higher Education (AISHE)" Portal, Organized by Vidyasagar University, 3rd February 2016

6. Refreshers Course on Computer Science, UGC, HRDC, University of North Bengal, Siliguri, India, from 04/01/2019 to 24/01/2019

7. 37th Orientation Programme (OP-NBU-37), 2019, UGC, HRDC, University of North Bengal, Siliguri, India, from 20/02/19 to 19/03/2019

8. Refreshers Course on Artificial Intelligence, Cyber Crime, Cyber Security & Information Science UGC, HRDC, University of North Bengal, Siliguri, India, from 26/09/2023 to 11/10/2023.

Scholarship/ Fellowship and Award Received:

1. Qualified GATE twice 2009 & 2010.
2. Scholarship for Pursuing M. Tech from AICTE
3. Institute Fellowship for Pursuing Ph.D from BIT
4. UGC NET June 2013, in Computer Science & Application.

Place: Siliguri   Mukta Majumder

Date: 29/12/2023   [Signature]