

RASEL AHMMED

Dept. of Electrical & Electronic Engineering (EEE)
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Research Interested

Developing novel computational deep learning algorithm for signal and image processing; Big data analysis and data mining using knowledge of engineering.

Key area: Machine learning; Deep learning; Medical signal and image processing; Big data analysis and data mining;

Education

2013-2016 M.Sc. in Electronics & Communication Engineering
Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh
CGPA: **3.93/4.00**
Specialization in image / signal processing through machine learning algorithm
Thesis: Tumor and Its Stages Detection in Brain MRI Using Template Based K-means and Fuzzy C-means Clustering Algorithm
Thesis Advisor: Prof. Dr. Md. Foisal Hossain

2008-2012 B.Sc. in Electronics & Communication Engineering
Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh
CGPA: **3.80/4.00** with **Summa Cum Laude** Position
Thesis: Ultrasound Based Strain Imaging of a Synthetic Phantom Using Displacement Data
Thesis Advisor: Prof. Dr. A.B.M Aowlad Hossain

Academic Positions

12/11/21 - Present Assistant Professor, Dept. of EEE
Bangabandhu Sheikh Mujibur Rahman Science & Technology University, Gopalganj, Bangladesh
Contribute and got two UGC approved research funds in medical data science through deep learning

25/11/18 - 11/11/21 Lecturer, Dept. of EEE
Bangabandhu Sheikh Mujibur Rahman Science & Technology University, Gopalganj, Bangladesh
Supervising several undergrad students to contribute different researches in computational medical data science through deep learning

30/08/16 - 22/11/18 Lecturer, Dept. of ECE
East West University, Dhaka, Bangladesh
Published some research in the area of medical big data analysis

RA and TA Positions

01/07/15 - 30/01/16 Research Assistant, Dept. of ECE
Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh
Published research articles on fruits images and got proposal from tea industries

01/07/14 - 31/12/14 Teaching Assistant, Dept. of ECE
Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh

Honors and awards

- Got two UGC research grant for the two consecutive year of 2019-2021.
- Certified reviewer in Sensing & Biosensing research of Elsevier in 2020.
- Got Best Paper Award in 11th Global Engineering, Science and Technology Conference in 2015.
- Ranked 3rd among 31 ECE B.Sc. students, KUET in 2013.
- Technical Scholarship throughout all the semester in B.Sc. Engineering from KUET.
- Dean listed student for consecutive 6 semesters in B.Sc. Engineering from KUET.

Research Project

- Machine learning based voice search engine and computer controller.
- IoT based health monitoring system for remote doctor
- Arduino based home appliance controller.
- Web based digital prescription for Bangladesh.
- Micro-strip & Wire Antenna Design (914 MHz & 2.4GHz)

Publications

1. Farjana Imam, Sandipa Biswas, Md. Shahjahan, Halima Khatun, **Rasel Ahmmed** & Abdullah Al-Mamun Bulbul, "Design and numerical analysis of a dispersion-flattened fabrication-friendly PCF-based THz waveguide", *Journal of Optics*, October Issue, pp. 1-9, October, 2021
<https://link.springer.com/article/10.1007/s12596-021-00782-z>
2. Md. Asadur Rahman, Mazhar Hossain, Md. Foisal Hossain, and **Rasel Ahmmed** "Employing PCA and t-Statistical Approach for Feature Extraction and Classification of Emotion from Multichannel EEG Signal", *EGYPTIAN Informatics Journal*, vol 21(1), pp 23-25, March, 2020 (**SCIE, impact factor 3.943**)
<https://www.sciencedirect.com/science/article/pii/S1110866519301720>
3. Tasnuva Tabassum, Md. Asadur Rahman, Anup Kumar Paul, and **Rasel Ahmmed**, "A Narrative Analysis on Deep Learning in IoT based Medical Big Data Analysis with Future Perspectives", Proceedings of International Conference on Electrical, Computer and Communication Engineering (ECCE-19), pp. 1-6, February 7-9, 2019, CUET, Cox's Bazar, Bangladesh, 2019. (**IEEE conference**)
<https://ieeexplore.ieee.org/abstract/document/8679200>
4. Md. Asadur Rahman, Md. Shajedul Islam Shohag, **Rasel Ahmmed**, Md. Mahmudul Haque, Anika Anjum, " Defined Limited Fractional Channel Scheme for Call Admission Control by Two-Dimensional Markov Process based Statistical Modeling ", *Advances in Science, Technology and Engineering Systems Journal*, vol. 3, issue. 4, pp. 295-307, USA, 2018.
<https://astesj.com/v03/i04/p30/> (**Scopus Indexed Journal**)
5. **Rasel Ahmmed**, Md. Asadur Rahman, and Md. Foisal Hossain, " An Advanced Algorithm Combining SVM and ANN Classifiers to Categorize Tumor with Position from Brain MRI Images", *Advances in Science, Technology and Engineering Systems Journal*, vol. 3, issue. 2, pp. 40-48, USA, 2018. <https://astesj.com/v03/i02/p05/> (**Scopus Indexed Journal**)
6. **Rasel Ahmmed**, Md. Asadur Rahman, Md. Foisal Hossain, "Fuzzy Logic Based Algorithm to Classify Tumor Categories with Position from Brain MRI Images", Proceedings of International Conference on Electrical, Information, Communication & Technology (EICT-17), pp. 1-6, December 7-9, 2017, KUET, Khulna, Bangladesh, 2017.
<http://ieeexplore.ieee.org/document/8275232/>
7. **Rasel Ahmmed**, Anirban Sen Swakshar, Md. Foisal Hossain, and Md. Abdur Rafiq, "Classification of Tumors and It Stages in Brain MRI Using Support Vector Machine and Artificial Neural Network", Proceedings of International Conference on Electrical, Computer and Communication Engineering (ECCE-17), pp. 229-234, February 16-18, 2017, CUET, Cox's Bazar, Bangladesh, 2017.
<http://ieeexplore.ieee.org/document/7912909/>
8. Rezaur Rahman Reza, **Rasel Ahmmed**, Md. Foisal Hossain and Masud An Nur Islam Fahim, "A Watermarking Scheme Based on Interpolation and Cellular Automata", International Conference on Engineering Research , Innovation and Education 2017(ICERIE 2017), pp. 61, 13- 15 January, SUST, Sylhet, Bangladesh, 2017.
9. **Rasel Ahmmed** and Md. Foisal Hossain, "A Novel Approach for Tumor Stages Detection & Classification in Brain MRI Images", *Global Science and Technology Journal* vol. 4, no. 1, September 2016 Issue, pp. 73- 83, Australia, 2016. (**Peer Reviewed Journal**)
10. **Rasel Ahmmed** and, Md. Foisal Hossain, "Tumor detection in brain MRI image using Template based K-means and Fuzzy C-means Clustering Algorithm", Proceeding of 6th International Conference on Computer Communication and Informatics, ICCCI -2016, 07 - 09 January, 2016, pp. 272-277, Coimbatore, INDIA.
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7479972&isnumber=7479908>
11. **Rasel Ahmmed** and, Md. Foisal Hossain, "Tumor stages detection in brain MRI image using Template based K-means and Fuzzy C-means Clustering Algorithm", Proceeding of 11th Global Engineering, Science and Technology Conference, 18 - 19 December, 2015, pp. 1-10, BIAM Foundation, Dhaka. ISBN: 978-1-922069-92-4 (**Awarded as Best Paper**)
https://gistworldconpro.com/uploads/7/2/1452742522/604-rasel_ahmmed.pdf

12. Md. Foisal Hossain, **Rasel Ahmmed**, Tasmeen Akhter Tonima, and Proma Nag, "Identification and quality grading of mango among different fruits using fuzzy inference system", Proceeding of First Conference on Research for Sustainable Development (FCRSD), 12-13 April, Shahjalal University of Science & Technology (SUST) research Centre, pp-11, 2016.
13. Md. Foisal Hossain, **Rasel Ahmmed**, Md. Shahraj Chowdhury, Tasmeen Akhter Tonima, and Proma Nag, "Quality grading of fruits using image processing", Proceeding of Second Conference on Research for Sustainable Development (SCRSD), 02 June, Shahjalal University of Science & Technology (SUST) research Centre, pp-08, 2016.

Computer Skills

- Programming Languages: C, C+, Visual C++, Code block, Java, Python.
- Engineering Analytical Tools: MATLAB, Multisim, PSPICE, Proteus.
- Hardware Programming: Intel 8085, 8086, 80287, Microprocessors, Atmega-8, Arduino.

Extra-Curricular Activities

- Organize cultural program and a short pitch Cricket tournament at BSMRSTU in 2019-2020.
- Moderator of Telecommunication club at East West University, Bangladesh, from March 2017 to November 2018
- Organized two International Telco Warfare on 2017 & 2018 where more than 25 countries participated.
- Participated in the inter hall debate competition in the KUET in 2010
- Performed and awarded with 2nd position in 'Country based Song' in cultural program in KUET in 2010.
- Participated in the inter hall cricket and football tournament 2010-2011 & 2011-2012 season consecutively.
- Participated and awarded 1st position in 100m race among both Undergraduate (2010) and post graduate (2015) students, 2nd in juvenile throw and long jump among post graduate student in the annual sports (2015)

References

Dr. Md. Foisal Hossain

Professor

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Dr. A. B. M. Aowlad Hossain

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