Dr. Md. Abdur Rahim

Assistant Professor, Dept. of Computer Science and
Engineering, Pabna University of Science & Technology,
Pabna, Bangladesh.

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Areas of interest

Human-computer Interaction, Computer Vision and Image Processing; Pattern Recognition; Machine Learning

Education

2020	Ph.D. in Computer Science and Engineering, The University of Aizu, Aizuwakamatsu, Fukushima, Japan.
2009	MSc in Computer Science and Engineering with First Class Second Position, GPA conversion: 3.95 (Out of 4.00 Scale) from University of Rajshahi, Rajshahi-6205, Bangladesh.
2008	BSc(HONOURS) in Computer Science and Engineering with First Class Second Position, CGPA conversion: 3.82 (Out of 4.00 Scale) from University of Rajshahi, Rajshahi-6205, Bangladesh.
2004	HIGHER SECONDARY CERTIFICATE (HSC) in Science with GPA: 4.90 (out of 5.00) from Bhurungamari Degree College, Bhurungamari, Kurigram, Bangladesh.
2002	SECONDARY SCHOOL CERTIFICATE (SSC) in Science with GPA: 4.38 (without 4th subject out of 5.00) from Bhurungamari Pilot High School, Bhurungamari, Kurigram, Bangladesh.

M.Sc. Thesis

Title: Face recognition using local binary patterns (LBP)

Undergraduate (B.Sc. Honours) Thesis

Title: Visual Recognition of Bengali Sign Language using Artificial Neural Network

Publications

Journal articles (20)

2020 Abu Saleh Musa Miah, **Md Abdur Rahim**, and Jungpil Shin, "Motor-Imagery Classification Using Riemannian Geometry with Median Absolute Deviation." Electronics (MDPI), Vol. 9, Issue. 10, p.1584, September, 2020. ISSN 2079-9292; CODEN: ELECGJ. **SCIE Indexed**
Available:https://doi.org/10.3390/electronics9101584

2020 **Md Abdur Rahim**, Jungpil Shin and Keun Soo Yun, "Hand Gesture-based Sign Alphabet Recognition and Sentence Interpretation using a Convolutional Neural Network", Annals of Emerging Technologies in Computing (AETiC), Print ISSN: 2516-0281, Online ISSN: 2516-029X, pp. 19-26, Vol. 4, No. 4, 1st October 2020, Published by International Association of Educators and Researchers (IAER), DOI: 10.33166/AETiC.2020.04.003. **Scopus Indexed**
Available:http://aetic.theiaer.org/archive/v4/v4n4/p3.html

2020 **Md Abdur Rahim**, Jungpil Shin, "Hand Movement Activity-Based Character Input System on a Virtual Keyboard," *Electronics*, 2020, 9(5), 774. **SCIE Indexed**.
DOI:https://doi.org/10.3390/electronics9050774

2020 **Md Abdur Rahim**, Jungpil Shin, Md Rashedul Islam, "Hand Gesture Recognition-Based Non-Touch Character Writing System on a Virtual Keyboard," *Multimedia Tools And Applications.*, 1-24. **SCIE Indexed**.
DOI:https://doi.org/10.1007/s11042-019-08448-6

2019 Jungpil Shin, **Md Abdur Rahim**, Md Rashedul Islam, and Keun Soo Yun, "A Novel Approach of Cursive Signature Generation for Personal Identity," *International Journal of Computer Applications in Technology.*, Vol. 62, No. 4, pp. 384-394, May, 2020.
DOI:https://doi.org/10.1504/IJCAT.2020.10029607

2019 **Md Abdur Rahim**, Jungpil Shin, and Md Rashedul Islam, "Gestural flick input-based non-touch interface for character input," *The Visual Computer.* 2019:1-4. **SCIE Indexed**.
DOI:https://doi.org/10.1007/s00371-019-01758-8

2019 **Md Abdur Rahim**, Md Rashedul Islam, Jungpil Shin, "Non-Touch Sign Word Recognition Based on Dynamic Hand Gesture Using Hybrid Segmentation and CNN Feature Fusion," *Applied Sciences.* 2019, 9(18), 3790. **SCIE Index**.
DOI: https://doi.org/10.3390/app9183790

2019   Jungpil Shin, **Md Abdur Rahim**, Won-Du Chang, "Learning System for Japanese Kanji Calligraphy with Computerized Supervision," *Symmetry.* 2019, 11, 1071. **SCIE Indexed**.
DOI: https://doi.org/10.3390/sym11091071

2019   Jungpil Shin, Md Rashedul Islam, **Md Abdur Rahim**, and Hyung-Jin Mun, "Arm movement activity based user authentication in P2P systems," *Peer-to-Peer Networking and Applications.* pp.1-12, 2019. **SCIE Indexed**.
DOI: https://doi.org/10.1007/s12083-019-00775-7

2019   Jungpil Shin, Cheol Min Kim, **Md Abdur Rahim**, "Simulating oriental brush character considered with aerial action of pen tablet", *Multimedia Tools and Applications.* pp. 1-19, 2019. **SCIE Indexed**.
DOI: https://doi.org/10.1007/s11042-019-7287-z

2018   Jungpil Shin, **Md Abdur Rahim**, and Keun Soo Yun, "Panoramic Image Stitching with Efficient Brightness Fusion Using RANSAC Algorithm," *International Journal of Engineering & Technology,* vol. 7, no 3.34, pp. 267-272, 2018. **Scopus Indexed**.
DOI: https://doi.org/10.14419/ijet.v7i3.34.18981

2015   Md. Khaled Ben Islam, Julia Rahman, Md. Al Mehedi Hasan, and **Md Abdur Rahim**, "Protein Function Prediction Using Hypergeometric Distance with Background Frequency from Protein-Protein Interaction Network," *International Journal of Computational Bioinformatics and in Silico Modeling,* vol. 4 no. 3, pp. 667-672, 2015.

2015   Md. Niaz Imtiaz, **Md Abdur Rahim**, "An Improved Energy Efficient Optimized Link-State Routing Protocol for Mobile Ad-hoc Sensor Networks," *International Journal of Information Technology and Electrical Engineering (ITEE Journal),* vol. 4 no. 4, Aug 2015.

2014   **Md Abdur Rahim**, Tanzillah Wahid, and Md. Khaled Ben Islam, "Visual Recognition of Bengali Sign Language using Artificial Neural Network," *International Journal of Computer Applications,* vol. 94 no. 17, pp. 0975-8887, May 2014.

2014   Iffat Ara, Md. Najmul Hossain, and **Md Abdur Rahim**, "ECG Signal Analysis Using Wavelet Transform," *International Journal of Scientific & Engineering Research,* vol. 5, no. 5, May-2014.

2014   Pronab Kumar Mondal, Uzzal Kumar Prodhan, Md. Selim Al Mamun, **Md Abdur Rahim**, Kazi Kamal Hossain,"Segmentation of White Blood Cells Using Fuzzy C Means Segmentation Algorithm," *IOSR Journal of Computer Engineering (IOSR-JCE),* vol. 1 no. 9, pp. 466-470, 2013.

2013   **Md Abdur Rahim**, Md. Najmul Hossain,Tanzillah Wahid and Md. Shafiul Azam, "Face Recognition using Local Binary Patterns (LBP)," *Global Journal of Computer Science and Technology,* vol. XIII, no. IV, 2013.

2013   Md. Najmul Hossain, **Md Abdur Rahim**, Md. Rashedul Islam, Md. Shafiul Azam, "Performance Analysis of Nash and Power Balancing Algorithms for SIR-Based Power Control in CDMA Networks," *International Journal of Scientific & Engineering Research,* vol. 4 no. 5, May 2013.

2013   Md. Najmul Hossain, **Md Abdur Rahim**, Iffa Ara, "SIR-Based Power Control Algorithms in CDMA Networks." *Global Journal of Computer Science and Technology*, vol. 13, Issue. 10, 2013.

2013   Md. Rashedul Islam, Md. Babul Islam , Md. Firoz Ahmed , Md. Najmul Hossain, **Md Abdur Rahim**,"MEL-LP BASED GENERALIZED CEPSTRAL ANALYSIS FOR NOISY SPEECH RECOGNITION USING HMM," *International Journal of scientific research and management (IJSRM),* vol. 1 no. 9, pp. 466-470, 2013.

International conferences (12)

2020   Jungpil Shin, **Md Abdur Rahim**, Okuyama Yuichi, Yoichi Tomioka, "Deep Learning-based Hand Pose Estimation from 2D Image," *The 3rd IEEE International Conference on Knowledge Innovation and Invention 2020 (IEEE ICKII 2020)*, August 21-23, 2020, Kaohsiung, Taiwan. **[Accepted]**

2020   **Md Abdur Rahim**, Abu Saleh Musa Miah, Jungpil Shin, "Hand gesture recognition based on optimal segmentation techniques in human-computer interaction," *The 3rd IEEE International Conference on Knowledge Innovation and Invention 2020 (IEEE ICKII 2020)*, August 21-23, 2020, Kaohsiung, Taiwan. **[Accepted]**

2020   Jungpil Shin, **Md Abdur Rahim**, "Handedness Detection Based on Drawing Patterns using Machine Learning Techniques," *The Thirteenth International Conference on Advances in Computer-Human Interactions (ACHI2020)*, pp. 68-71, March, 2020.

2020   **Md Abdur Rahim**, Md Rashedul Islam, Ui-Pil Chong, Jungpil Shin, "Hand movement activity-based approach for virtual keyboard input," *3rd Eurasian Conference on Educational Innovation 2020 (ECEI 2020)*, February 5-7, 2020, Hanoi, Vietnam. **[Best Conference Paper Award]**

2019   **Md Abdur Rahim**, Jungpil Shin, Md Rashedul Islam,"Dynamic Hand Gesture based Sign Word Recognition using Convolutional Neural Network with

Feature Fusion," *In 2019 IEEE 2nd International Conference on Knowledge Innovation and Invention (ICKII)*, pp. 221-224, July, 2019. **[Best Conference Paper Award]**
DOI: https://doi.org/10.1109/ICKII46306.2019.9042600

2019   Md Rashedul Islam, **Md Abdur Rahim**, Md Rajibul Islam, and Jungpil Shin. "Genetic Algorithm Based Optimal Feature Selection Extracted by Time-Frequency Analysis for Enhanced Sleep Disorder Diagnosis Using EEG Signal," *In Proceedings of SAI Intelligent Systems Conference*, pp. 881-894. Springer, Cham, 2019.
DOI: https://doi.org/10.1007/978-3-030-29513-46 5

2019   Shunsuke Kobayashi, Ryoma Takahashi, Mitsuki Aihara, **Md Abdur Rahim**, Md Rashedul Islam, Jungpil Shin, Kazuaki Kanai, Yoshikazu Ugawa, "Pathophysiology of Micrographia in Parkinson's Disease," *60th Annual Meeting of the Japanese Society of Neurology*, Pe-051-1, May 22-25, 2019, Osaka, Japan.

2019   **Md Abdur Rahim**, Hyung-Jin Mun, Jungpil Shin,"Content-Based Image Retrieval (CBIR) Using Gabor Wavelet, Color Moments and Shape Features," *International Research Conference on Innovation, Technology and Sustainability*, pp. 701-702, January 24-25, 2019, Century Park Hotel, Manila, Philippines.

2018   **Md Abdur Rahim**, Jungpil Shin, and Md Rashedul Islam,"Human-Machine Interaction based on Hand Gesture Recognition using Skeleton Information of Kinect Sensor," *In Proceeding of the 3rd International Conference on Applications in Information Technology*, pp. 75-79, ACM, Nov. 2018.
DOI: https://doi.org/10.1145/3274856.3274872

2018   Md Rashedul Islam, **Md Abdur Rahim**, Hafeza Akter, Raihan Kabir, and Jungpil Shin, "Optimal IMF Selection of EMD for Sleep Disorder Diagnosis using EEG Signals," *In Proceeding of the 3rd International Conference on Applications in Information Technology*, pp. 96-101, ACM, Nov. 2018. **[Best Paper Award]**
DOI: https://doi.org/10.1145/3274856.3274876

2018   Jungpil Shin, **Md Abdur Rahim**, Keun Soo Yun, "Continuous Motion Detection using Histogram of Oriented Gradients," *The 5th International Conference on Small & Medium Business (ICSMB)*, W15-199, Jan. 17-19, 2018, Manila, Philippines.

2018   **Md Abdur Rahim**, Jungpil Shin, Keun Soo Yun, "Integrated Recognition of Handwritten and Printed Character using Machine Learning Algorithm," *The 5th International Conference on Small & Medium Business (ICSMB)*, W15-200, Jan. 17-19, 2018, Manila, Philippines.

Awards & honours

2020   Best Conference Paper Award, 3rd Eurasian Conference on Educational Innovation 2020 (ECEI 2020), Ha Long Bay/Hanoi, Vietnam, February 5-7, 2020.

2019   Best Conference Paper Award, 2nd IEEE International Conference on Knowledge Innovation and Invention (ICKII), July 13-16, 2019, Seoul, South Korea,

2018   Best Paper Award, In Proceeding of the 3rd International Conference on Applications in Information Technology (ICAIT'2018), 2018.

2014-2015   Received research fund, supported by University Grants Commission (UGC) of Bangladesh under the projects of Research and Development (RD).

2013-2014   Research Fellowship at Ministry of Science and Technology, Bangladesh.

2009   Second Position in M.Sc. (Thesis) Examination Results

2008   Second Position in B.Sc. (Honours) Examination Results

2004-2008   Undergraduate scholarship at University of Rajshahi throughout the four years for excellent undergraduate level based on merit.

1997-1999   Merit Scholarship of Bangladesh Junior Level Scholarship Examination.

Work Experience

Nov.2014-Current   Assistant Professor, Department of Computer Science and Engineering, Pabna University of Science and Technology, Pabna-6600, Bangladesh.

Nov.2012-Nov.2014   Lecturer, Department of Computer Science and Engineering, Pabna University of Science and Technology, Pabna-6600, Bangladesh.

Dec.2011-Nov.2012   Lecturer, Department of Computer Science and Engineering, Uttara University, Uttara, Dhaka, Bangladesh.

Feb.2011-Dec.2011   Assistant Programmer, Bangladesh Computer Council, Bangladesh.

Others Experience

Nov.2020-Present   Chairman, Department of Computer Science and Engineering, Pabna University of Science and Technology, Rajapur-6600, Pabna.

Nov.2020-Present   Member, Diary and Calendar Printing Committee, Pabna University of Science and Technology, Rajapur-6600, Pabna.

2014-2017   Assistant Proctor, Pabna University of Science & Technology, Pabna-6600, Bangladesh.

2016-2017   Member, Campus Network Sub-Project of BdREN, Pabna University of Science & Technology, Pabna-6600, Bangladesh.

2015-2016   Coordinator, MCSE Evening Program, Department of Computer Science and Engineering, Pabna University of Science & Technology, Pabna-6600, Bangladesh.

2016-2017   Secretary, Teacher-Officer Club, Pabna University of Science & Technology, Pabna-6600,

Bangladesh.

Thesis & Project Supervisions

Thesis Title:

- Multiple Face Detection & Recognition in Real Time Using Local Binary Patterns (LBP)

- Handwritten and Printed Character Recognition System Using Neural Network

- Segmentation Techniques for Iris Recognition System

- Content-Based Image Retrieval (CBIR) Using Gabor Wavelet, Color Moment & Shape

- Signal De-noising Based On Empirical Mode Decomposition and a Comparison between EMD and Wavelet Processing

- Automatic Gait Recognition for Human ID at a Distance

- Reducing Peak to Average Power Ratio of OFDM by Using Selected Mapping

- Custom object detection and recognition system

Projects:

- Online Library Management System

- Human Resource Management System

- Online Ticket Reservation System

- Cloud computing security and password management

- Tennis Sports Management System

- Payroll Management System

- Vehicular Cloud Computing

Reviewer of international journal and conference

1 IEEE Access

2 Multimedia Tools and Applications, Springer

3 International Journal of Computer Applications in Technology, Springer

4 International Conference on Small Medium Business (ICSMB)

Conducted courses

- Pattern Recognition

- Digital Image Processing

- Compiler Design

- Digital Systems

- Internet and E-Commerce

- Automata Theory and Compiler Design

- Database Management System

- Introduction to Computers

- Programming with C and C++

- Cryptography and Network Security

- Design Pattern and Java Programming

- Microprocessor

- Computer Peripherals and Interfacing

- Numerical Methods

Programming skills

- **Programming Language**: Python, MATLAB, Microsoft C.NET,Visual Basic-6, Assembly Language(8085, 8086), C, C++, Java, Visual C++, Prolog.

- **Database**: MS SQL Server, MS Access, MySQL, Oracle

- **Networking**: DNS Server, FTP Server, Web server, Mail Server and Telnet configuration in Windows 2000/2003 server and Linux/Unix.

- **Scripting Language/Web Technology**: HTML, PHP, ASP.Net, Macromedia Dream Weaver, Adobe Photoshop, Adobe Illustrator

- **Operating System**: MS DOS, All Window, Linux.

English proficiency

1 Medium of Instruction was English in Undergraduate Program at Dept. of CSE, University of Rajshahi, Bangladesh.

2 Medium of Instruction was English in Graduate Program (M.Sc.) at Dept. of CSE, University of Rajshahi, Bangladesh.

3 Medium of Instruction in English in my teaching profession at the Pabna University of Science & Technology. We are strongly instructed to conduct courses, supervision and discussion in English.

4 Medium of Instruction is English in PhD at School of Computer Science and Engineering, The University of Aizu, Aizuwakamatsu, Fukushima, Japan.

Personal information

Father's name:	Md Fazlar Rahman
Mother's name:	Mst Omeda Begum
Place and Date of Birth:	Bhurungamari, Kurigram, 11 October 1987
Nationality:	Bangladeshi (By Birth)
Sex:	Male
Religion:	Islam
Marital status:	Married
Blood group:	A+ (Positive)
Permanent address:	Village- Kamat Angaria, Post: Bhurungamari-5670, Upazilla: Bhurungamari, District- Kurigram.
email:	rahim_bds@yahoo.com

Contact address

Fukushima-Ken, Aizuwakamatsu-shi,
Iawashe Machi 13-5
Iawashe Danchi 3-17, 965-0012, Japan.
Mobile: +81-070-4102-5292

Referees

1   Professor Khademul Islam Molla, PhD
    Department of Computer Science and Engineering
    University of Rajshahi, Rajshahi, Bangladesh
    email: khadem_ru@yahoo.com

    Subrata Pramanik
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    University of Rajshahi, Rajshahi, Bangladesh
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(Md Abdur Rahim)

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https://www.researchgate.net/profile/Md$_R$ahim10/

https://orcid.org/0000-0003-2300-1420/

https://www.facebook.com/abdur.rahim.3532/