

# Curriculum Vitae

Name RAMESWAR DEBNATH

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**ORCID ID** <https://orcid.org/0000-0002-1214-6133>

**Date & Place of Birth** December 12, 1975; Bagerhat, Bangladesh

<b>Education</b>	Ph.D.	University	The University of Electro-Communications, Japan. March 2005
		Major	Advanced Circuits and Systems, Robotics and Automation Engineering
		Thesis	Efficient Learning Algorithms for Support Vector Machines and Multi-Class Support Vector Machines
M.Engg.	University	The University of Electro-Communications, Japan. March 2002	
	Result	Overall Grade: A	
	Major	Neural Network, Fuzzy Engineering, Information Theory, Theory of Optimization, Sensing System, Visual Communication, Computer Network Architecture.	
		Thesis	Lagrangian Differential Gradient Method for Training and Pruning Neural Network
B.Sc. in CSE	University	Khulna university, Bangladesh. September 1997	
	Result	First Class with <b>1<sup>st</sup> Merit position</b>	
	Major	All departmental core courses required for obtaining the Computer Science and Engineering Degree.	
	Minor area of Specialization	Electrical Technology and Circuit Theory, Electronic Devices and Circuits, Electrical Measurement and Instrumentation, Data Communication, Mathematics	
		Thesis	Study on Image Processing and Compression Algorithm for Image

**Training Programs**

Training on Teaching-Learning, Curriculum & Quality Assurance (5 days), 06-10 September, 2015

Training Workshop on Outcome Based Education (OBE) Curriculum and Course File (1 day), 06 December 2021

Training Workshop on BNQF and Accreditation Standards & Criteria (1 day), 27 December 2021

Training Workshop on National Integrity Strategy and Annual Performance Agreement: Formulation and Implementation (1 day), 08 January, 2022

Training Workshop on Orientation of OBE curriculum Template (1 day), 22 February, 2022

Training Workshop on BAETE Accreditation: Criteria and Requirements (1 day), 20 June 2022

Training Workshop on National Integrity Strategy (NIS) (1 day), 09 January, 2023

Training on Questioning and Assessment under OBE Framework (1 day), 14 September, 2023

Training on Roadmap towards Program-level Accreditation (1 day), 04 December, 2023

Workshop on Question Moderation under OBE Framework (1 day), 25 March, 2024

Workshop on Preparedness for Program-level Accreditation (1 day), 27 March 2024

Training on Documentation and Evidences for Compliance with BAC Standards (1 day), 15 July, 2024

Knowledge Sharing Training on Preparation for Accreditation Application by Entities of Khulna University (1 day), 6 March, 2025

Workshop on Teaching, Learning and Assessment in OBE (1 day), 19 May, 2025

Workshop on Program-level Accreditation: BAC Accreditation Standard (1 day) 24 June, 2025

Workshop on Course File Preparation (1 day), 15 July, 2025

Workshop on BAC Standard Document Preparation and Sharing (1 day), 23 July, 2025

Workshop on PLO, CLO and Curriculum Revision (1 day), 24 August, 2025

Workshop on BAC Evidences and Strategic Plan Preparation (1 day), 16 September, 2025

Training on Academic Audit: Self-Assessment and Evidence Management (2 day), 12 & 24 November, 2025

Workshop on Development of Survey Tools for Program Self-Assessment (1 day), 05 February, 2026

**Professional Experiences**

Professor (2011), Associate Professor (2006), Assistant Professor (2001), Lecturer( 1997)

Computer Science and Engineering (CSE) Discipline, Khulna University

Focal Point, Khulna University Innovation Hub (July 2022 – Oct. 2024)

Head, CSE Discipline, Khulna University (2012-2015)

- Khulna University is a public university with around 7000 students. The CSE Discipline has an involvement of 25 faculty members and 250 students. The Discipline offers an undergraduate program, a master's program and a Ph.D. program.

Director, Post Graduate Diploma in Information and Technology (PGDIT) under CSE Discipline, Khulna University (2012-2015)

- A one year post graduate diploma program with three terms. Each batch had 25 students.

Chair, Technical Programming Committee, 2024 IEEE Conference on Computing, Applications and Systems (COMPAS 2024), Chattogram, Bangladesh, 2024

Organizing Chair, Workshop on Smart City and Smart Village: Perspective Digital Bangladesh, Khulna, Bangladesh, 2020

Convener & Member, Self-Assessment Committee, CSE Discipline, KU (Year 2015)

Organizing Chair, 16th International Conference on Computer and Information Technology (ICCIT), Khulna, Bangladesh, 2014

Organizer, Workshop on ICT in Agriculture: Possibilities, Perspectives & Measures, Khulna University Campus, 2014

Visiting Researcher, Department of Informatics, The University of Electro-Communications, Tokyo, Japan (September 2011 - December 2011)

Postdoctoral Researcher, Department of Informatics, The University of Electro-Communications, Tokyo, Japan (August 2010 - January 2011)

Postdoctoral Researcher, Neuroscience Research Inst., National Inst. of Adv. Industrial Science and Technology, Tsukuba, Japan (Nov. 2008 - July 2010)

Visiting Research Scholar, Dept. of Information and Communication Engg., The Univ. of Electro-Communications, Tokyo, Japan (April 2005 - July 2005)

### **Trainer**

Fundamental Information Technology Engineers Examination (FE)  
Enhancing Digital Government and Economy (EDGE)

### **Other Experiences**

Internship Program for Masters Studies in the Wonderware Corporation in Japan (2011)  
Teaching Assistant, Graduate School of Electro-Communications, The University of Electro-Communications, Tokyo, Japan (2011)

### **Awards**

Research fund from Khulna University Research Cell in 2013, 2017 and 2019  
Research grant from Marubun Research Promotion Foundation in 2011 and 2005 (1.5 million yen in each year)  
JSPS Fellowship for Postdoctoral Fellows for 2 years  
Monbusho Scholarship from the Ministry of Education, Science and Culture of Japan for Master's and Ph. D. studies  
Sessions best paper award in the IMCIC 2010 International Conference

Student paper award in the 2005 RISP International Conference

Travel and Hotel grants from 9th ICCNS (2005)& 10th ICCNS (2006) Conferences, Boston University, USA

Travel grant for IJCNN 2004 from IEEE Neural Network Society

Khulna University Merit Scholarship for 1<sup>st</sup> merit position in the department(1994-97)

**Responsibilities  
& Activities**

General Co-Chair, 2025 IEEE Conference on Computing, Applications and Systems (COMPAS), Kushtia, Bangladesh, 2025

Educational Activity Coordinator, IEEE Computer Society, Bangladesh Chapter-2024

Vice President, Bangladesh Bioinformatics and Computational Biology Association (BBCBA) (2016-2024)

President, Bangladesh Computer Society (BCS), Khulna Division (2019-2023)

Secretary, bdSTEM Foundation, Khulna University (2019-2023)

Divisional Coordinator (Khulna), IEEE Computer Society, Bangladesh Chapter-2023

Joint Secretary (Divisional Coordinator), IEEE Computer Society, Bangladesh Chapter-2022

Member, Board of Advanced Studies, Khulna University (2012-2014, 2021-23)

Member, Executive Committee of School of Studies; Science, Engineering and Technology School, Khulna University (2012-2017, 2020-2022, 2023-25 )

Member, Managing Committee, Khulna University School (2013-2014, 2016-2022)

Member, Governing Body, Khulna University Research Cell (2013-2015)

Member, Academic Committee, Graduate and Postgraduate level, CSE Discipline, KUET (2019 -2022)

Member, Faculty of Applied Science and Technology, Islamic University (2018-2020)

Member, Selection Committee of Associate Professor for the ETE Discipline, Bangabandhu Sheikh Mujibur Rahman Science and Technology University

Member, Selection Committee of Associate Professor and Professor for the CSE Discipline, Khulna Engineering University of Technology (KUET) (2014-2016)

Member, Selection Committee of Lecturer and Assistant Professor for the Institute of Information and Communication Technology, KUET (2014-2016)

Member, Selection Committee of Lecturer and Assistant Professor for the CSE Discipline, Bangabandhu Sheikh Mujibur Rahman Science and Technology University (2011-2015)

Member, Advisory Committee, 19<sup>th</sup> International Conference on Computer and Information Technology, North South University, Dhaka, Bangladesh, December 2016

Member, Program Committee, The 1st Information Access Research Evaluation Initiative (IAREI) Workshop, Chittagong, Bangladesh, December 2016

Member, International Advisory Committee, International Conference on Information Technology, Computational Intelligence and Data Analysis (ICITCIDA), India, August 2016

Member, Advisory Committee, 18<sup>th</sup> International Conference on Computer and Information Technology, Military Institute of Science and Technology, Dhaka, Bangladesh, December 2015

Member, Organizing Committee, 17<sup>th</sup> International Conference on Computer and Information Technology, Daffodil International University, Dhaka, Bangladesh, December 2014

Editor of Book and International Conference Proceedings

Reviewer of many reputed journals and international conferences

**Professional Memberships**

IEEE Senior Member

Fellow of the Institute of Engineers, Bangladesh (IEB)

Fellow of Bangladesh Computer Society (BCS)

Member of Bangladesh STEM Foundation (bdSTEM)

Life Member of Bangladesh Bioinformatics and Computational Biology Association (BBCBA)

Member of Internet Society (ISOC)

**Research Fields**

Image Data Analysis, Deep Learning, Bioinformatics, Support Vector Machine, Artificial Neural Network, Statistical Pattern Recognition, and Medical Image Processing

**Professional Responsibilities**

Teaching, Research and Administrative works

**Undergraduate Courses Taught**

Digital Image Processing, Computer Graphics, Artificial Intelligence, Simulation and Modeling, Applied Probability and Queuing Theory, Numerical Methods, Database System, Computer Network, Discrete Mathematics, Digital Logic Design

**Masters Courses Taught**

Machine Learning, Neural Networks, Scientific Research Methodology, Bioinformatics

**Thesis Supervision**

Undergraduate, Masters and Ph.D. levels

## List of Publications

- [1] Chinmay Bepery, GM Atiqur Rahaman, **Rameswar Debnath**, Sajib Saha, Md Shafiqul Islam, Md Emranul Islam Abir and Sanjay Kumar Sarker, BanglaOCT2025: A population-specific Fovea-Centric OCT dataset with self-supervised volumetric restoration using flip-flop swin transformers, *Diagnostics*, vol. 16, issue 3, 2026.
- [2] Swajan Golder, Hafsa Sultana, Abdullah Al Noman, Rafflesia Khan, Anupam Kumar Bairagi and **Rameswar Debnath**, Automated detection, shape classification, and counting of leaves and fruits from bunch leaf and fruit image using deep learning models for smart agriculture and forestry, *Multimedia Tools and Applications*, vol 85, issue 2, 2026.
- [3] Aysha Akther, Moudud Hasan and **Rameswar Debnath**, Generation, analysis, and detection of LLM manipulated Bangla news, *IEEE Access*, vol. 13, pp. 216870-216889, 2025, doi: 10.1109/ACCESS.2025.3647800.
- [4] Swapnil Mistry, Sakib Mahmud Sovon, Mrityunjoy Gain and **Rameswar Debnath**, A lightweight CNN-based framework for real-time Bengali sign language recognition and translation, in *Proceedings of the 2025 IEEE 2<sup>nd</sup> International Conference on Computing, Applications and Systems (COMPAS)*, Kushtia, Bangladesh, October, 2025.
- [5] Aysha Akther, Kazi Masudul Alam and **Rameswar Debnath**, Automatic detection of manipulated Bangla news: A new knowledge-driven approach, *Natural Language Processing Journal*, vol. 11, June, 2025
- [6] Mrityunjoy Gain, Asadov Amirjon, Sumit Kumar Dam, Apurba Adhikary, Anupam Kumar Bairagi, **Rameswar Debnath** and Avi Deb Raha, Dynamic balanced training regimes: elevating model performance through iterative training with imbalanced superset and balanced subset alternation, *Expert Systems with Applications*, vol. 269, April, 2025.
- [7] Chinmay Bepery, G M Atiqur Rahman, **Rameswar Debnath** and Sajib Saha, Forward autoencoder approach for denoising retinal OCT images, in *Proceedings of the 2025 International Conference on Electrical, Computer and Communication Engineering (ECCE)*, Chattogram, Bangladesh, February, 2025.
- [8] Bristy Biswas, Dhruvalika Mandal, Chandan Paul, **Rameswar Debnath**, Avi Deb Raha and Mrityunjoy Gain, Deep learning for fish freshness detection: an XAI oriented knowledge validation based approach, in *Proceedings of the 2025 International Conference on Electrical, Computer and Communication Engineering (ECCE)*, Chattogram, Bangladesh, February, 2025.
- [9] Avi Deb Raha, Mrityunjoy Gain, Sudip Kumar Saha, Md Shohanur Rahman, Apurba Adhikary and **Rameswar Debnath**, Resource-aware Monkeypox diagnosis: leveraging high-capacity and lightweight models with knowledge distillation, in *Proceedings of the 17th International Conference on COMMunication Systems and NETWORKS (COMSNETS 2025)*, January, Bengaluru, India, pp. 72-77.
- [10] Jannatul Ferdous, Anindya Nag, Shish Been Baha Uddin and **Rameswar Debnath**, Real-time and automated student attention monitoring system in classroom using deep learning techniques, in *Proceedings of the 27th International Conference on Computer and Information Technology (ICCI 2024)*, Cox's Bazar, Bangladesh, December, 2024.

- [11] Swajan Golder, Avi Deb Raha, Fardous Ahmed Rubel, Apurba Adhikary, Anupam Kumar Bairagi, **Rameswar Debnath** and Mrityunjoy Gain, Lightweight and trustworthy deep learning model for fish freshness detection: an XAI-driven approach, in Proceedings of the 27th International Conference on Computer and Information Technology (ICCIT 2024), Cox's Bazar, Bangladesh, December, 2024.
- [12] Bristy Biswas, Avi Deb Raha, Chandan Paul, Sumit Kumar Dam, Apurba Adhikary, Anupam Kumar Bairagi, **Rameswar Debnath** and Mrityunjoy Gain, Navigating the obscured: a novel deepfake detection framework tackling trending occlusions in social media, in Proceedings of the 27th International Conference on Computer and Information Technology (ICCIT 2024), Cox's Bazar, Bangladesh, December, 2024.
- [13] Mrityunjoy Gain, Sumit Kumar Dam, Apurba Adhikary, Yu Qiao, Anupam Kumar Bairagi, **Rameswar Debnath** and Avi Deb Raha, Equitable federated learning for skin cancer detection: a fairness-driven approach", in Proceedings of the 27th International Conference on Computer and Information Technology (ICCIT 2024), Cox's Bazar, Bangladesh, December, 2024.
- [14] Hafsa Sultana, Mrityunjoy Gain, Swajan Golder and **Rameswar Debnath**, Lightweight deep learning model for fruit detection from bunch of papaya fruits with complex background, in Proceedings of the 2024 IEEE Conference on Computing, Applications and Systems (COMPAS 2024), Chattogram, Bangladesh, September, 2024.
- [15] Mehedi Hasan Shanto, Mohammad Asaduzzaman Rony, **Rameswar Debnath** and Manishankar Mondal, Granularity-based comparison of the change-proneness of micro-clones, in Proceedings of the 15<sup>th</sup> International IEEE Conference on Computing, Communication and Networking Technologies (ICCCNT), Himachal Pradesh, India, June, 2024.
- [16] Mrityunjoy Gain, Avi Deb Raha, Bristy Biswas, Anupam Kumar Bairagi, Apurba Adhikary, and **Rameswar Debnath**, LEO satellite oriented wildfire detection model using deep neural networks: a transfer learning based approach, in Proceedings of the 6th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT2024), Dhaka, Bangladesh, May, 2024.
- [17] Avi Deb Raha, Mrityunjoy Gain, **Rameswar Debnath**, Apurba Adhikary, Yu Qiao, Md. Mehedi Hassan, Anupam Kumar Bairagi and Sheikh Mohammed Shariful Islam, Attention to Monkeypox: an interpretable Monkeypox detection technique using attention mechanism, IEEE Access, vol. 12, pp. 51942-51965, 2024.
- [18] Sajib Chatterjee, **Rameswar Debnath**, Sujit Biswas, and Anupam Kumar Bairagi, Prediction of RNA secondary structure using Butterfly optimization algorithm, Human-Centric Intelligent Systems, Springer Nature, March 2024, <https://doi.org/10.1007/s44230-024-00062-6>.
- [19] Smritikana Mondal, Manishankar Mondal and **Rameswar Debnath**, Granularity-based comparison of the bug-proneness of code clones, in Proceedings of the 17 International Workshop on Software Clones (IWSC 2023), Bogota, Columbia, October, 2023.
- [20] Swajan Golder and **Rameswar Debnath**, Performance analysis of multiple deep learning models for image retrieval problems, in Proceedings of the International Conference on Big Data, IoT and Machine Learning (BIM 2023), Dhaka, Bangladesh, September 2023.

- [21] Mrityunjay Gain and **Rameswar Debnath**, A novel unbiased deep learning approach (DL-Net) in feature space for converting gray to color image, *IEEE Access*, vol. 11, pp 78918-78933, DOI: 10.1109/ACCESS.2023.3263948, 2023.
- [22] Mrityunjay Gain, Md Arifur Rahman, **Rameswar Debnath**, Mrim M. Alnfai, Abdullah Sheikh, Mehedi Masud and Anupam Kumar Bairagi, An improved encoder-decoder CNN with region-based filtering for vibrant colorization, *Computer Systems Science & Engineering*, vol. 46, no. 1, pp. 1059-1077, 2023.
- [23] Aysha Akther and **Rameswar Debnath**, Automated speech-to-text conversion systems in Bangla language: a systematic literature review, *Khulna University Studies Special Issue ICSTEM4IR*, pp. 566-583, November 2022.
- [24] Aysha Akther, Md. Shymon Islam, Hafsa Sultana, A.K.Z Rasel Rahman, Sujana Saha, Kazi Masudul Alam and **Rameswar Debnath**, Compilation, analysis and application of a comprehensive Bangla corpus KUMono, *IEEE Access*, vol. 10, PP. 79999-80014, 2022, DOI: 10.1109/ACCESS.2022.3195236.
- [25] Rafflesia Khan and **Rameswar Debnath**, "Morphology preserving segmentation method for occluded cell nuclei from medical microscopy image," *International Journal of Image and Graphics*, vol. 22, no 2, 2022.
- [26] S.M. Mohidul Islam and **Rameswar Debnath**, "A comparative evaluation of feature extraction and similarity measurement methods for content-based image retrieval," *International Journal of Image, Graphics and Signal Processing*, vol. 12, no. 6, pp. 19-32, 2020.
- [27] Rafflesia Khan and **Rameswar Debnath**, "Human distraction detection from video stream using artificial emotional intelligence," *International Journal of Image, Graphics and Signal Processing*, vol. 12, no. 2, pp. 19-29, 2020.
- [28] Ashrafi Akram and **Rameswar Debnath**, "An automated eye disease recognition system from visual content of facial images using machine learning techniques," *Turkish Journal of Electrical Engineering and Computer Sciences*, vol. 28, no. 2, pp. 917-932, 2020.
- [29] Ashrafi Akram and **Rameswar Debnath**, "An efficient automated corneal ulcer detection method using convolutional neural network," in *Proceedings of the 2019 22nd International Conference on Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, December 2019.
- [30] Rafflesia Khan and **Rameswar Debnath**, "Leaf classification by combining hand-crafted and deep features," *BCS Journal of Computer and Information Technology*, vol. 1, 50-60, 2019.
- [31] Rafflesia Khan and **Rameswar Debnath**, "Segmentation of single and overlapping leaves by extracting appropriate contours," in *Proceedings of the 6th International Conference on Signal, Image Processing and Multimedia (SPM 2019)*, Zurich, Switzerland, November 2019, pp. 287 - 300.
- [32] Rafflesia Khan and **Rameswar Debnath**, "Multi class fruit classification using efficient object detection and recognition techniques," *International Journal of Image, Graphics and Signal Processing*, vol. 11, no. 8, pp. 1-18, 2019.
- [33] Rafflesia Khan, Tarannum Fariha Raisa and **Rameswar Debnath**, "An efficient contour based fine-grained algorithm for multi category object detection," *Journal of Image and Graphics*, vol. 6, no. 2, pp. 127-136, 2018.

- [34] Rafflesia Khan, Tarannum Fariha Raisa and **Rameswar Debnath**, "An efficient contour based fine-grained algorithm for object detection," in *Proceedings of the 10th International Conference on Digital Image Processing (ICDIP 2018)*, Shanghai, China, December 2018. (Poster).
- [35] Juthuka Majumder, Razia Sultana and **Rameswar Debnath**, "Bangla handwritten digit and basic letter recognition using machine learning techniques", *Journal of Image Processing & Pattern Recognition Progress*, vol. 3, issue 3, pp. 1-15, 2016.
- [36] Saikat Mondal, **Rameswar Debnath** and Barun Kumar Mondal, "An improved color image steganography technique in spatial domain", in *Proceedings of the 9th International Conference on Electrical and Computer Engineering (ICECE 2016)*, Dhaka, Bangladesh, December 2016.
- [37] S.M. Mohidul Islam and **Rameswar Debnath**, "An RST invariant image retrieval approach using color moment and wavelet packet entropy," in *Proceedings of the 5th International Conference on Informatics, Electronics and Vision (ICIEV)*, Dhaka, Bangladesh, May, 2016, pp. 747-751.
- [38] Anupam K. Bairagi, Saikat Mondal and **Rameswar Debnath**, "A robust RGB channel based image steganography technique using a secret key," in *Proceedings of the 16th International Conference on Computer and Information Technology*, Khulna, Bangladesh, March, 2014, pp. 81-87.
- [39] **Rameswar Debnath**, Haruhisa Takahashi and Takio Kurita, "A comparison of SVM-based evolutionary methods for multicategory cancer diagnosis using microarray gene expression data," *Journal of Systemics, Cybernetics and Informatics*, vol. 9, no. 6, pp. 63-68, 2011.
- [40] **Rameswar Debnath** and Haruhisa Takahashi, "A new ensemble learning with support vector machine," in *Proceedings of the 2010 International Conference on Computer and Information Application*, Tianjin, China, December, 2010, pp. 33-35.
- [41] **Rameswar Debnath** and Haruhisa Takahashi, "A comparison of SVM-based criteria in evolutionary method for gene selection and classification of microarray data", *World Academy of Science, Engineering and Technology*, vol. 46, pp. 406-410, 2010.
- [42] **Rameswar Debnath** and Takio Kurita, "An evolutionary approach for gene selection and classification of microarray data based on SVM error-bound theories," *BioSystems*, vol. 100, issue 1, pp. 39-46, 2010.
- [43] **Rameswar Debnath** and Takio Kurita, "A comparison of evolutionary methods based on SVM error bound theories for multicategory microarray gene expression data," in *Proceedings of the International Multi-conference on Complexity, Informatics and Cybernetics*, Orlando, Florida, USA, April 6-9, 2010, pp. 295-299 (**Session's Best Paper Award**).
- [44] **Rameswar Debnath** and Takio Kurita, "An evolutionary gene selection method for microarray data based on SVM error bound theories," in *proceedings of the 2009 International Conference on Bioinformatics and Computational Biology*, Las Vegas, USA, July, 2009, pp. 153-158.
- [45] **Rameswar Debnath**, Masakazu Muramatsu and Haruhiha Takahashi, "Implementation issues of second-order cone programming approaches for support vector machine learning problems," *IEICE Trans. Fundamentals*, vol. E92-A, no.43. pp. 1209-1222, 2009.

- [46] Ripon K. Saha, Noresh C. Biswas and **Rameswar Debnath**, "A new approach for adding facial expression to neutral face," in *Proceedings of the International Conference on Computer Graphics and Virtual Reality*, Las Vegas, USA, July, 2008, pp. 87-92.
- [47] A. F. M. Nazmul Alam, Md. Imran Ali, **Rameswar Debnath** and G. M. Atiqur Rahman, "Efficient fingerprint identification and verification system using minutiae matching technique," in *Proceedings of International Conference on Electronics, Computer and Communication*, Rajshahi University, Bangladesh, June, 2008, pp. 364-367.
- [48] S. M. Mohidul Islam, **Rameswar Debnath** and S. K. Alamgir Hossain, "DWT based digital image watermarking technique and its robustness on image rotation, scaling, JPEG compression, cropping and multiple watermarking," in *Proceedings of the 10<sup>th</sup> International Conference on Information and Communication Technology*, Dhaka, Bangladesh, March, 2007, pp. 246-249.
- [49] Kashif Nizam Khan, Jinat Rehna, and **Rameswar Debnath**, "An improved interleaver design for turbocodes," in *Proceedings of the 10<sup>th</sup> International Conference on Information and Communication Technology*, Dhaka, Bangladesh, March, 2007, pp. 131-134.
- [50] S. K. Alamgir Hossain, S. M. Mohidul Islam and **Rameswar Debnath**, "Improvement of the performance of DCT based digital image watermarking technique," in *Proceedings of the 9<sup>th</sup> International Conference on Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, December, 2006.
- [51] **Rameswar Debnath** and Haruhiha Takahashi, "SVM training: second-order cone programming versus quadratic programming," in *Proceedings of the IEEE International Joint Conference on Neural Networks*, Vancouver, Canada, June, 2006, pp. 2141-2147.
- [52] **Rameswar Debnath**, "Support vector machine learning: second-order cone programming versus quadratic programming," in *Proceedings of the Tenth International Conference on Cognitive and Neural Systems*, Boston, USA, May 2006 (*abstract*).
- [53] **Rameswar Debnath**, Masakazu Muramatsu and Haruhiha Takahashi, "An efficient support vector machine learning method with second-order cone programming for large scale problems," *Applied Intelligence*, vol. 23, issue. 3. pp. 219-240, 2005.
- [54] **Rameswar Debnath** and Haruhiha Takahashi, "Tuning multiple parameters for the support vector machines with Gaussian kernel," *Journal of Signal Processing*, vol. 9, no.6, pp. 447-456, 2005.
- [55] **Rameswar Debnath** and Haruhiha Takahashi, "Efficient support vector regression training using the second-order cone programming technique," in *Proceedings of the International Conference on Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, December 2005, pp. 596-601.
- [56] **Rameswar Debnath** and Haruhiha Takahashi, "A fast and efficient learning algorithm for the support vector regression problem," in *Proceedings of the Workshop on Mathematical Programming in Data Mining and Machine Learning*, McMaster University, Hamilton, Canada, June 2005 (*abstract*).
- [57] **Rameswar Debnath** and Haruhiha Takahashi, "A model selection method for support vector machines with Gaussian kernel," in *Proceedings of the Ninth International Conference on Cognitive and Neural Systems*, Boston, USA, May 2005 (*abstract*).

- [58] **Rameswar Debnath**, Masakazu Muramatsu and Haruhiha Takahashi, "An efficient method for large-scale SVM training," in *Proceedings of the 2005 RISP International Workshop on Nonlinear Circuits and Signal Processing*, Hawaii, USA, March 2005, pp. 135-138 (**Student Paper Award**).
- [59] **Rameswar Debnath** and Haruhisa Takahashi, "Kernel selection for the support vector machine," *IEICE Trans. on Information and System*, vol. E87-D, no. 12, pp. 2903-2904, 2004.
- [60] **Rameswar Debnath** and Haruhiha Takahashi, "Analyzing the behavior of distribution of data in the feature space of SVM with Gaussian kernel," *Neural Information Processing – Letters and Reviews*, vol. 5, no. 3, pp. 41-48, 2004.
- [61] **Rameswar Debnath** and Haruhisa Takahashi, "An efficient method for tuning kernel parameter of the support vector machine," in *Proceedings of the IEEE International Symposium on Communications and Information Technologies 2004(ISCIT 2004)*, Sapporo, Japan, October 2004, pp. 1023-1028.
- [62] **Rameswar Debnath** and Haruhisa Takahashi, "Performance evaluation of multiclass support vector machines in the normalized feature space," in *Proceedings of the International Workshop on Modern Science and Technology*, Kitami, Japan, September 2004, pp. 314-317.
- [63] **Rameswar Debnath**, Nogayama Takahide and Haruhiha Takahashi, "A decision based one-against-one method form multi-class support vector machine," *Pattern Analysis and Applications*, vol. 7, no. 2, pp. 164-175, 2004.
- [64] **Rameswar Debnath**, Masakazu Muramatsu and Haruhiha Takahashi, "The support vector machine learning using second order cone programming," in *Proceedings of the IEEE International Joint Conference on Neural Networks*, Budapest, Hungary, July, 2004, pp. 2991-2996.
- [65] **Rameswar Debnath** and Haruhiha Takahashi, "A new approach to the structural learning of neural networks," *IEICE Trans. on Fundamentals*, vol. E87-A, no. 6, pp. 1655-1658, 2004.
- [66] **Rameswar Debnath** and Haruhiha Takahashi, "An improved working set selection method for SVM decomposition method," in *Proceedings of the IEEE International Conference Intelligence Systems*, Varna, Bulgaria, June 2004, pp.520-523.
- [67] **Rameswar Debnath**, Masakazu Muramatsu and Haruhiha Takahashi, "A new model for large margin classifiers by second order cone programming," in *Proceeding of the International Conference on Machine Learning; Models, Technologies & Applications*, Las Vegas, USA, June 2004, pp. 877-882.
- [68] **Rameswar Debnath** and Haruhisa Takahasi, "Enlarging the marginal space of support vector machine," in *Proceedings of the International Conference of Neural Networks and Artificial Intelligence*, Minsk, Belarus, November 2003, pp. 78-81.
- [69] **Rameswar Debnath**, Nogaya Takahide and Haruhisa Takahashi, "A fast learning decision-based SVM for multi-class problems," in *Proceeding of the International Conference on Machine Learning and Applications*, Los Angeles, USA, June 2003, pp. 128 – 134.
- [70] **Rameswar Debnath** and Haruhisa Takahashi, "Learning capability: classical RBF network vs. SVM with Gaussian kernel," *Developments in Applied Artificial Intelligence (Proc. Int. Conf. IEA/AIE 2002)*, Tim

Hendtlass and Moonis Ali eds., LNAI 2358, Springer–Verlag Berlin Heidelberg New York, 2002, pp. 293–302.

- [71] **Rameswar Debnath**, Md. Mahbubur Rahman and Md. Mehedi Masud, “A DCT approximation for lossy image compression,” in *Proceedings of the International Conference on Robotics, Vision and Parallel processing for Automation*, Ipoh, Malaysia, July 1999, pp. 409–414.

#### **Other Publications**

- ❖ Efficient Learning Algorithms for Support Vector Machines and Multi-Class Support Vector Machines, *Ph. D. Thesis*, 2005.
- ❖ Lagrangian Differential Gradient Method for Training and Pruning Neural Network, *Master’s Thesis*, 2002.
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