

Curriculum Vitae

1. **Name in Full:** SUBHADIP BASU
2. **Present Designation:** Professor
3. **Department:** Computer Science and Engineering
4. **Organization:** Jadavpur University
Kolkata-700032, India.
Phone No.: +91-33-24572808
FAX: +91-33-24131766
5. **Email:** subhadip.basu@jadavpuruniversity.in, b.subhadip@gmail.com
6. **Residential Address :** 87/46/1, A.K. Mukherjee Road
Kolkata-700090, India.
Phone No.: +91-33-25310928(Res.), +91-9674 354573 (M)
7. **Date of Birth:** 8th September 1976
8. **Sex:** Male
9. **Academic Qualifications:**

| Name of Examination / Degree | Name of School/College /Board/ Council/University | Year of Passing | Division / Class | Marks (%) |
|--|---|-----------------|---|-----------|
| Madhyamik (10 th Standard) | Ramakrishna Mission Vidyapith, Purulia, W.B.B.S.E | 1993 | (Ranked 24 th among ~500,000 students) | 90.1 |
| Higher Secondary | St. Xavier's College, Calcutta, W.B.C.H.S.E | 1995 | I | 73.4 |
| Bachelor of Engineering (Computer Sc. & Engineering) | Jawaharlal Nehru National College of Engineering, Kuvempu University, Karnataka | 1999 | 1 st Class with Distinction | 76.5 |
| Ph.D. (Engineering) | Jadavpur University, Kolkata | 2006 | Thesis Title: " <i>Development of OCR Technique for handwritten Bangla Text</i> " | |

10. Experience Profile:

| | Name of Employer | Designation | Period | |
|--|---|-----------------------------|-----------|-----------|
| | | | From | To |
| Academic | Jadavpur University, Kolkata, India | Professor | July 2017 | Till date |
| | | Associate Professor | July 2014 | July 2017 |
| | | Assistant Professor | July 2006 | July 2014 |
| | MCKV Institute of Engineering, Howrah, India | Lecturer | Feb. 2002 | July 2006 |
| | Institute of Engineering & Management, Kolkata, India | Lecturer | July 2000 | Nov. 2000 |
| | Gandhi Institute of Engineering & Technology, Orissa, India | Lecturer | Dec. 1999 | June 2000 |
| Industrial | R S Software (I) Ltd., Kolkata, India | Associate Software Engineer | Dec. 2000 | Dec. 2001 |
| Post-doctoral Research and Visiting Positions | Hitachi Central Research Laboratory, Tokyo, Japan | Visiting Researcher | Aug. 2007 | Nov. 2007 |
| | Interdisciplinary Centre for Mathematical and Computational Modelling, University of Warsaw, Poland | Visiting Researcher | June 2009 | Aug. 2009 |
| | | Post-doctoral Researcher | Oct. 2012 | Dec. 2012 |
| | | | June 2013 | Aug. 2013 |
| | | | June 2014 | Aug. 2014 |

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|--------------------------|--|-----------------------------|-----------|-----------|
| | Department of Electrical and Computer Engineering, The University of Iowa, USA | Post-doctoral Researcher | June 2010 | June 2011 |
| | | Visiting Scientist | Oct. 2015 | Nov. 2015 |
| | School of Computing, Bournemouth University, UK | Visiting Researcher | June 2015 | July 2015 |
| | LORIA, University of Lorraine, Nancy, France | Visiting Professor | May 2016 | June 2016 |
| | Nencki Institute of Experimental Biology, Warsaw, Poland | Visiting Scientist | July 2017 | Aug. 2017 |
| | Hannover Medical School, Germany | Visiting Scientist | May 2018 | June 2018 |
| Adjunct Positions | Department of Electrical and Computer Engineering, The University of Iowa, USA | Honorary Research Scientist | Dec. 2016 | Till date |

11. Contribution to Teaching:

| | Theoretical | Sessional / Practical |
|---|--|--|
| Subject / Paper taught in Under Graduate Level | Computer Graphics, Image Processing, Introduction to computing, Computer Programming & Numerical Methods, Embedded Systems | Computer Graphics, Introduction to computing, Computer Programming & Numerical Methods, Data Structure |
| Subject / Paper taught in Post Graduate Level | Pattern Recognition and Image Processing, Computer Graphics and Multimedia, Bioinformatics | Computer Graphics, Data Structure |

12. Contribution to Research:

A. Publications: (Annexure – A)

- SCI Journal Publications: **47**
- Other Journal Publications: **31 (Scopus/DBLP/ISSN)**
- List of edited volumes/books published: **8**
- List of chapters contributed in edited volumes: **5**
- List of papers published in National/International Conferences: **127**

B. Invited Talks Delivered: (Annexure – B)

- International: 13; National: 24

C. Research Guidance towards Ph.D. (Engineering):

Awarded:

1. Dr. Nibaran Das: “A soft computing approach towards recognition of handwritten Bangla characters”, Co-supervisor: Prof. Mahantapas Kundu, JU. AWARDED in Oct. 2012.
2. Dr. Ram Sarkar: “Development of line extraction and segmentation techniques for unconstrained handwritten Bangla documents”, Co-supervisor: Prof. Mahantapas Kundu, JU. AWARDED in Dec. 2012.
3. Dr. Ayatullah Faruk Mollah: “Development of some camera based document processing techniques for mobile devices”, Co-supervisor: Prof. Mita Nasipuri, JU. AWARDED in Nov. 2013.
4. Dr. Satadal Saha: “Development of some techniques for automatic localization and interpretation of vehicle license plates”. Co-supervisor: Prof. Mita Nasipuri, JU. AWARDED in 2014.
5. Dr. Sandip Rakshit: “A study on handwritten document management system”. Co-supervisor: Prof. Kalyan Sankar Sengupta, IISWBM. AWARDED in 2014.
6. Mr. Brijesh Sriwastava: “Analysis of protein-protein interactions using computational approaches”, registered in Jadavpur University in March 2012. Co-supervisor: Prof. Ujjwal Maulik, JU. AWARDED in 2017.
7. Ms. Pranati Rakshit: “Some studies on hemodynamic modelling in human cerebral vasculature”, registered in Jadavpur University in October 2013. Co-supervisor: Prof. Mita Nasipuri, JU. AWARDED in 2019
8. Mr. Sovan Saha: “Some studies on analysis of protein-protein interaction networks”, registered in Jadavpur University in November 2015. Co-supervisor: Dr. Piyali Chatterjee, Netaji Subhash Engineering College. AWARDED in 2019

Registered/Submitted:

1. Ms. Soumi Paul: “Some studies on automatic analysis of human motions from video sequences”, registered in Jadavpur University in June 2014. Co-supervisor: Prof. Mita Nasipuri, JU.
2. Mr. Bidhan Barai: “Development of some techniques for text-independent speaker recognition from audio signals”, registered in Jadavpur University in August 2015. Co-supervisor: Dr. Nibaran Das, JU.
3. Mr. Anup Kumar Halder: “Human Protein Cluster Analysis”, registered in Jadavpur University in December 2015.

4. Mr. Nirmal Das: “Advancement of Multiscale Opening Algorithm using Focallness and other Novel Techniques”, registered in Jadavpur University in August 2017.
5. Mr. Soumyendu Sekhar Bandyopadhyay: “Computational Analysis of Large and Heterogeneous Biological Networks” registered in Jadavpur University in June 2019.
6. Mr. Shauvik Paul: “Quantitative analysis of dendritic spines from high resolution microscopic images” registered in Jadavpur University in June 2019.
7. Mr. Neelotpal Chakraborty: “multilingual scene text analysis: inherent challenges and probable solutions” registered in Jadavpur University in June 2019.

D. Academic Projects (Ongoing):

| Project Title | Role | Funding Agency | Amount | Duration | Period |
|---|------------------------|---------------------------|----------------|------------------|---------|
| Development of some analytical tools for analysis of large-scale protein-protein interaction networks | Principal Investigator | DBT, Govt. of India | Rs.48,22,125/- | 3 Years 6 months | 2017-21 |
| Multi-lingual Text Analytics for Camera-based Handheld Devices | Co-Investigator | DST, SERB, Govt. of India | Rs.25,96,440/- | 3 years 6 months | 2017-21 |

Completed:

| Project Title | Role | Funding Agency | Amount | Duration | Period |
|---|---|------------------------------------|--|----------|---------|
| Multispectral Image Analysis for Various Security and Medical Applications | Co-Investigator | PURSE-II, DST, Govt. of India | Rs.37,00,000 | 3 Years | 2015-19 |
| Hand Gesture Recognition in Video for Speech and Hearing Disabled | Principal Investigator | RUSA-2, MHRD, Govt. of India | Rs.5,70,000/- | 1 Year | 2019-20 |
| Design of a Multimodal Biometric System for Various Security and Forensic applications (Phase-II) | Principal Investigator | UPE-II, UGC, Govt. of India | Rs.13,70,000 | 4 Years | 2015-19 |
| Development of a new morphological operator for multi-scale opening of conjoined objects | Principal Investigator (Research Award) | UGC, Govt. of India | Rs.3,00,000/- (excluding salary component) | 2 Years | 2016-18 |
| Segmentation of the carotid vasculature in human CT angiography | Principal Investigator | DST, Govt. of India | Rs.8,58,000/- | 3 years | 2013-16 |
| Design of a Multimodal Biometric System for Various Security and Forensic applications (Phase-I) | Principal Investigator | UPE-II, UGC, Govt. of India | Rs.13,63,200/- | 3 Years | 2012-15 |
| Sanketantar : A font converter for Samit font encoded Bangla document to Unicode encoded Bangla document and vice versa | Co-Investigator | SNLTR, Govt. of West Bengal, India | Rs.1,20,000/- | 6 months | 2009 |

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|---|------------------------|---------------------|-------------|--------|---------|
| A vision based system for real-time tracking of human activities against a complex background | Principal Investigator | Jadavpur University | Rs.50,000/- | 1 Year | 2006-07 |
|---|------------------------|---------------------|-------------|--------|---------|

E. Industrial Projects Undertaken:

| Responsibility | Title of Project | Client | Year | Status |
|-----------------------------------|--|---|---------|-----------|
| Convenor (Principal Investigator) | Development of an Automatic Handwritten Document Recognition System | eMotions Infomedia Pvt. Ltd., Kolkata, India & Kolkata Police | 2009-10 | Completed |
| Convenor (Principal Investigator) | Development of a Red Light Violation Detection system for an integrated vehicular traffic management | eMotions Infomedia Pvt. Ltd., Kolkata, India & Kolkata Police | 2008-11 | Completed |

F. Patents

- Satadal Saha, **Subhadip Basu**, Mita Nasipuri, and Dipak Kumar Basu. "Image binarization based on grey membership parameter of pixels." U.S. Patent 8,744,208, issued June 3, 2014.
- Satadal Saha, **Subhadip Basu**, Mita Nasipuri, and Dipak Kumar Basu. "Image binarization based on grey membership parameters of pixels." U.S. Patent 8,406,554, issued March 26, 2013.

13. Scholarship, Fellowship, Awards etc.

- Received an honorary position as **Research Scientist** from Department of Electrical and Computer Engineering, University of Iowa, USA.
- Received **DAAD Fellowship** to visit Hannover Medical School, Germany during May-June, 2018
- Received **Research Award from UGC**, Govt. of India for 2016-2018
- **Best Paper Award** in 4th International Conference on Advanced Computing, Networking, and Informatics (ICACNI), NIT Rourkela, Sep. 2016.
- **Best Paper Award** in First International Conference on ETCSIT, Kalyani University, India, 2015.
- Visiting Professor at LORIA, University of Lorraine, France, May-June, 2016.
- Received DST-ITS grant from Govt. of India to attend 18th ICIAP at Genoa, Italy, Sep. 2015.
- Received EU-cLink Fellowship in 2015 to visit University of Bournemouth, UK, for one month.
- Received **FAST-TRACK Young Scientist Grant** in 2012 from Department of Science and Technology, Govt. of India, for a period of three years.
- Received European Union **EMMA-West Post-Doctoral fellowship** in 2012 for visiting University of Warsaw, Poland, for a period of six months.
- Received EMEA-2 Post-Doctoral fellowship in 2012 for visiting Université Pierre et Marie CURIE, France, for a period of nine months (did not join).
- Received DST-ITS grant from Govt. of India to visit HUST, China, during IEEE-ICBMI 2011.
- Received **BOYSCAST Young Scientist fellowship** in 2010 from Department of Science and Technology, Govt. of India, to visit University of Iowa, US, for a period of one year.
- Received European Union **EMMA fellowship** in 2009 for visiting University of Warsaw, Poland.
- Received **Hitachi Visiting Researcher (HIVIP) fellowship** in 2007 for visiting Hitachi Central Research Laboratory, Tokyo, Japan.
- Offered *Teacher Fellow* under Early Faculty Induction Programme of AICTE in 1999 (did not join).
- Awarded *National Scholarship* for excellence (ranked 24th in the state of West Bengal, India) in Madhyamik Pariksha (10th Standard Examination).

14. Membership of Professional Bodies:

- Senior Member of IEEE, USA
- Life-member, IUPRAI (affiliated to IAPR).

15. Professional activities:

- **Guest Editor, Pattern Recognition Letters (IF(2020): 3.255)**, Special issue on "DLVTA: Deep Learning for Video Text Analysis"

- **Guest Editor, Briefings in Functional Genomics (IF(2020): 2.941)**, Special issue on “Emerging and Threatening Infectious Diseases: Functional Genomics Approaches”
- **Joint Coordinator**, MHRD Sponsored one-week GIAN course on “Human Genomics: Computational Methods and Applications”, to be held at CSE Dept, JU during Dec. 11-16, 2017
- **Joint Coordinator**, MHRD Sponsored one-week GIAN course on “Digital Topology and Geometry in Medical Imaging: Theory and Application”, held at CSE Dept, JU during January 9-14, 2017
- **Joint Coordinator**, UGC Human Resource Development Centre, Jadavpur University sponsored One-week Short Term Course on “MOOCs, E-content Development and Open Educational Resources,” jointly organized by, School of Media, Communication and Culture & Centre for Microprocessor Applications for Training, Education & Research, at Department of Computer Science and Engineering, Jadavpur University, 11-17 February, 2020.
- **General Chair**, International Conference on Frontiers in Computing and Systems (COMSYS-2020), to be organized at Jalpaiguri Government Engineering College, Jalpaiguri, West Bengal, India from 13th to 15th January, 2020.
- **Program Chair**, 2nd IEEE International Conference on Recent Trends in Information Systems (ReTIS-2015); International Conference on Recent Trends in Information Systems (ReTIS-2011); 2nd National Conference on Recent Trends in Information Systems (ReTIS-2008).
- **Finance Chair**, 21st International Conference on Distributed Computing and Networks (ICDCN), January 2020, Kolkata.
- Organizing Vice-Chair, 9th International Conference on Distributed Computing and Networks (ICDCN), January 2008, Kolkata
- Convener, Organizing committee, 11th International Conference on Frontiers in Handwriting Recognition (ICFHR), November 2010, Kolkata.
- Convener, National Conference on Recent Trends in Information Systems (ReTIS-2006), Kolkata.
- Session Chaired, in IEEE CALCON 2020, at Hotel Senses, Kolkata on February 28-29, 2020.
- Session Chaired, International Conference on Frontiers in Computing and Systems (COMSYS 2020), held on January 13–15, 2020 at Jalpaiguri Government Engineering College, West Bengal, India
- Member, Program Committee: CIMTA-2009; ICACCI-2013; ICPRAM-2015; RetComp-2015; iNIS-2015; iNIS-2016; ICPRAM-2017;
- Reviewer of Extra Mural Grant Proposals, DST-SERB, Govt. of India.
- Reviewer, IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI), IEEE Transaction on Fuzzy Systems (TFS), IEEE Transaction on Biomedical Engineering (TBME), Pattern Recognition Letters, Applied Soft Computing, BMC Bioinformatics, International Journal of Document Analysis and Recognition (IJ DAR), International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI) etc.
- Chairperson, (past Vice-chair, Secretary, Treasurer), Computer Chapter, IEEE Kolkata Section.
- Member, Executive Committee, IEEE Young Professional affinity group, IEEE Kolkata section.
- Member, Board of Studies, School of Computer Science & Engineering, Techno India University, Kolkata
- Member, Board of Studies, Computer Science & Engineering Department, Techno India University, Kolkata
- PhD thesis examiner: IIT-BHU, RK University, Rajasthan, VTU, Karnataka, MS University, Tamilnadu.
- PhD Committee member, Dept. of IT, IEST, Shibpur.

16. Current Areas of Research

- Digital topology and geometry
- Handwritten/printed document analysis, segmentation and recognition
- Biomedical image analysis, Bioimage informatics
- Bioinformatics

Subhadip Basu

(Subhadip Basu)

Place: Kolkata, India

Date: July 30, 2020

List of SCI Journal Publications:

2020

1. Yvonne Schill, Monika Bijata, Olga Kopach, Volodymyr Cherkas, Dalia Abdel-Galil, Katrin Böhm, Markus H Schwab, Michiyuki Matsuda, Valerie Compan, **Subhadip Basu**, Krystian Bijata, Jakub Wlodarczyk, Lucie Bard, Nicholas Cole, Alexander Dityatev, Andre Zeug, Dmitri A Rusakov, Evgeni Ponimaskin, “Serotonin 5-HT 4 receptor boosts functional maturation of dendritic spines via RhoA-dependent control of F-actin”, Communications Biology, Nature Publication Group, in press.
2. Urban, Paulina, Vahid Rezaei Tabar, Michał Denkiewicz, Grzegorz Bokota, Nirmal Das, **Subhadip Basu**, and Dariusz Plewczynski. "The Mixture of Autoregressive Hidden Markov Models of Morphology for Dendritic Spines During Activation Process." *Journal of Computational Biology* (2020), in press.
3. **S. Basu**, U. Maulik, U. Pal, “Special Issue on Deep Learning for Video Text Analysis,” *Pattern Recognit. Lett.* (2020). <https://doi.org/10.1016/j.patrec.2020.07.036>.
4. A.K. Halder, S.S. Bandyopadhyay, P. Chatterjee, M. Nasipuri, D. Plewczynski, **S. Basu**, “JUPPI: A multi-level feature based method for PPI prediction and a refined strategy for performance assessment,” *IEEE/ACM Trans. Comput. Biol. Bioinforma.* (2020). <https://doi.org/10.1109/tcbb.2020.3004970>.
5. S. Malakar, R. Sarkar, **Subhadip Basu**, Mahantapas Kundu, M. Nasipuri, “An image database of handwritten Bangla words with automatic benchmarking facilities for character segmentation algorithms,” *Neural Comput. Appl.*, in press. <https://doi.org/10.1007/s00521-020-04981-w>.
6. Saha, S., Chakraborty, N., Kundu, S., Paul, S., Mollah, A. F., **Basu, S.**, Sarkar, R. “Multi-lingual Scene Text Detection and Language Identification. *Pattern Recognition Letters*, in press, (2020).

2019

7. Halder, A.K., Chatterjee, P., M., Nasipuri, Plewczynski, D., **Basu, Subhadip**, “3gClust: Human Protein Cluster Analysis,” *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, Volume: 16, Issue: 6, pp. 1773-1784, 2019.
8. S. Bhowmik, S. Malakar, R. Sarkar, **S. Basu**, M. Kundu, M. Nasipuri, Off-line Bangla handwritten word recognition: a holistic approach, *Neural Comput. Appl.* 31 (2019) 5783–5798. <https://doi.org/10.1007/s00521-018-3389-1>.
9. S. Saha, A. Prasad, P. Chatterjee, **S. Basu**, M. Nasipuri, Protein function prediction from dynamic protein interaction network using gene expression data, *J. Bioinform. Comput. Biol.* 17 (2019). <https://doi.org/10.1142/S0219720019500252>.
10. Blazej Ruzsyczki, Katarzyna Karolina Pels, Agnieszka Walczak, Katarzyna Zamłyńska, Michał Such, Andrzej Antoni Szczepankiewicz, Małgorzata Hanna Hall, Adriana Magalska, Marta Magnowska, Artur Wolny, Grzegorz Bokota, **Subhadip Basu**, Ayan Pal, Dariusz Plewczynski, Grzegorz Wilczynski, “Three-Dimensional Segmentation and Reconstruction of Neuronal Nuclei in Confocal Microscopic Images,” *Frontiers in Neuroanatomy*, 13 (81), 2019.
11. Anup Kumar Halder, Michał Denkiewicz, Kaustav Sengupta, **Subhadip Basu**, Dariusz Plewczynski, “Aggregated Network Centrality Shows Non-Random Structure of Genomic and Proteomic Networks,” *Methods*, Elsevier, in press, 2019.
12. S Saha, P Chatterjee, **S Basu**, M Nasipuri, D Plewczynski, “FunPred 3.0: improved protein function prediction using protein interaction network,” *PeerJ* 7, e6830, 2019.
13. Adam Krzystyniak, Ewa Baczynska, Marta Magnowska, Svitlana Antoniuk, Matylda Roszkowska, Monika Zareba-Kozioł, Nirmal Das, **Subhadip Basu**, Michał Pikula, Jakub Wlodarczyk, “Prophylactic Ketamine Treatment Promotes Resilience to Chronic Stress and Accelerates Recovery: Correlation with Changes in Synaptic Plasticity in the CA3 Subregion of the Hippocampus,” *International Journal of Molecular Sciences* 20 (7), 1726, 2019.
14. P Urban, V Rezaei, G Bokota, M Denkiewicz, **S Basu**, D Plewczynski, “Dendritic Spines Taxonomy: The Functional and Structural Classification• Time-Dependent Probabilistic Model of Neuronal Activation,” *Journal of Computational Biology*, DOI: 10.1089/cmb.2018.0155, in press.
15. S Paul, S Saha, **S Basu**, PK Saha, M Nasipuri, “Text localization in camera captured images using fuzzy distance transform based adaptive stroke filter,” *Multimedia Tools and Applications*, DOI: 10.1007/s11042-019-7178-3, in press

2018

16. Sovan Saha, A. Prasad, Piyali Chatterjee, **Subhadip Basu**, Mita Nasipuri, “Protein function prediction from protein-protein interaction network using gene ontology based neighborhood analysis and physico-chemical features,” *Journal of Bioinformatics and Computational Biology*, DOI: 10.1142/S0219720018500257, in press.
17. S Bhowmik, S Malakar, R Sarkar, **S Basu**, M Kundu, M Nasipuri, “Off-line Bangla handwritten word recognition: a holistic approach,” *Neural Computing and Applications*, 1-16, DOI: 10.1007/s00521-018-3389-1, in press.
18. **Subhadip Basu**, Dariusz Plewczynski, “Emerging and threatening infectious diseases,” *Briefings in Functional Genomics*, vol. 17, no.6, pp. 372-373, 2018.

19. A. Banerjee, S. Basu, **Subhadip Basu**, M. Nasipuri, "ARTEM: a new system for human authentication using finger vein images", *Multimedia Tools and Applications*, 77(5), 5857-5884, 2018.
20. **Subhadip Basu**, P. K. Saha, M. Roszkowska, M. Magnowska, E. Baczynska, N. Das, D. Plewczynski and J. Wlodarczyk, "Quantitative 3-D morphometric analysis of individual dendritic spines," *Scientific Reports*, 8: 354, 2018.
21. P. Dutta, **S. Basu** and M. Kundu, "Assessment of semantic similarity between proteins using information content and topological properties of the Gene Ontology graph", *IEEE/ACM Transactions on Computational Biology and Bioinformatics* Volume: 15, Issue: 3, pp. 839-849, 2018.
22. PK Singh, R Sarkar, N Das, **S Basu**, M Kundu, M Nasipuri, "Benchmark databases of handwritten Bangla-Roman and Devanagari-Roman mixed-script document images", *Multimedia Tools and Applications*, Springer, Volume 77, Issue 7, pp 8441-8473, 2018.

2017

23. Anup Kumar Halder, Pritha Dutta, Mahantapas Kundu, **Subhadip Basu** and Mita Nasipuri, "Review of computational methods for virus-host protein interaction prediction: a case study on novel Ebola-Human interactions", *Briefings in Functional Genomics*, vol. 17, no.6, pp. 381-391, 2017.
24. Sovan Saha, Kaustav Sengupta, **Subhadip Basu**, Mita Nasipuri and Piyali Chatterjee, "Analysis of Protein Targets in Pathogen-Host Interaction in Infectious Diseases: A Case Study on *Plasmodium falciparum* and *Homo sapiens* Interaction Network", *Briefings in Functional Genomics*, vol. 17, no.6, pp. 441-450, 2017.
25. Anupam Banerjee, Priti Das, Orachorn Mekkerdchoo, Chaleeda B, Georges Srzednicki, Mita Nasipuri, and **Subhadip Basu**, "A soft computing tool for species classification and prediction of glucomannan content in *Amorphophallus* genus", *Engineering in Life Sciences*, Volume17, Issue12, Pages 1254-1263, 2017.
26. Pritha Dutta, Anup Kumar Halder, **Subhadip Basu**, and Mahantapas Kundu, "A survey on Ebola genome and current trends in computational research on the Ebola virus", *Briefings in Functional Genomics*, vol. 17, no.6, pp. 374-380, 2017.

2016

27. P. K. Saha, **Subhadip Basu**, E. A. Hoffman, "Multi-Scale Opening of Conjoined Fuzzy Objects: Theory and Applications," *IEEE Transactions on Fuzzy Systems*, vol. 24, no. 5, pp. 1121-1133, 2016.
28. P. Chatterjee, **Subhadip Basu**, J. Zubek, M. Kundu, M. Nasipuri and D. Plewczynski, "PDP-CON: Prediction of domain/linker residues in protein sequences using consensus approach," *Journal of molecular modelling*, vol. 22, no. 4, pp. 1-15, 2016.
29. **Subhadip Basu**, D. Plewczynski, S. Saha, M. Roszkowska, M. Magnowska, E. Baczynska, and J. Wlodarczyk, "2dSpAn: semiautomated 2-d segmentation, classification and analysis of hippocampal dendritic spine plasticity," *Bioinformatics*, **32** (16), pp. 2490 – 2498, 2016.

2015

30. BK Sriwastava, **S Basu**, U Maulik, "Predicting protein-protein interaction sites with a novel membership based Fuzzy SVM classifier," *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, Vol. 12, Issue 6, pp. 1394-1404, 2015.
31. BK Sriwastava, **S Basu**, U Maulik, "Protein-Protein interaction site prediction in *Homo sapiens* and *E. coli* using an interaction-affinity based membership function in Fuzzy SVM," *Journal of Biosciences*, 40(4):809-818, 2015.
32. Julian Zubek, Marcin Tatjewski, Adam Boniecki, Maciej Mnich, **Subhadip Basu** and Dariusz Plewczynski, "Multi-level machine learning prediction of protein-protein interactions in *Saccharomyces cerevisiae*," *PeerJ*, 3, e1041, 2015.
33. N. Das, R. Sarkar, **S. Basu**, P. K. Saha, M. Kundu, M. Nasipuri, "Handwritten Bangla Character Recognition using a Soft Computing Paradigm embedded in Two pass Approach," *Pattern Recognition*, Elsevier, vol. 48, Issue 6, pp. 2054 – 2071, 2015.
34. Satadal Saha, **Subhadip Basu**, Mita Nasipuri, "iLPR: An Indian License Plate Recognition System", *Multimedia Tools and Applications*, Springer, 74(23): 10621-10656 (2015).

2014

35. S. Saha, P.Chatterjee, **Subhadip Basu**, M.Kundu, M.Nasipuri, "FunPred-1: Protein Function Prediction from Protein Interaction Network Using Neighborhood Analysis", *Cellular & Molecular Biology Letters*, Springer, Vol. 19 (4), pp. 675-691, 2014.
36. Nibar Das, Kallol Acharya, Ram Sarkar, **Subhadip Basu**, Mahantapas Kundu, Mita Nasipuri, "A Benchmark Image Database of Isolated Bangla Handwritten Compound Characters," *International Journal on Document Analysis and Recognition (IJ DAR)*, Volume 17, Issue 4, pp. 413-431, 2014.

2013

37. BK Sriwastava, **S Basu**, U Maulik, D Plewczynski, "PPIcons: identification of protein-protein interaction sites in selected organisms," *Journal of molecular Modeling*, volume 19, issue 9, pp 4059-4070.

2012

38. D. Plewczynski, **S. Basu**, I. Saha, "AMS 4.0: consensus prediction of post-translational modifications in protein sequences," *Amino Acids*, Springer, Volume 43, Issue 2, pp 573-582, 2012.

39. N. Das, J.M. Reddy, R. Sarkar, **S. Basu**, M. Kundu, M. Nasipuri, D.K. Basu, "A Statistical-Topological Feature Combination for Recognition of Handwritten Numerals," *Applied Soft Computing, Elsevier*, vol. 12, no. 8, pp. 2486-2495, 2012.
40. N. Das, R. Sarkar, **S. Basu**, M. Kundu, M. Nasipuri, and D. K. Basu, "A genetic algorithm based region sampling for selection of local features in handwritten digit recognition application," *Applied Soft Computing, Elsevier*, vol. 12, no. 5, pp. 1592-1606, 2012.
41. R. Sarkar, N. Das, **S. Basu**, M. Kundu, M. Nasipuri and D. K. Basu, "CMATERdb1: a database of unconstrained handwritten Bangla and Bangla-English mixed script document image," *International Journal on Document Analysis and Recognition, Springer*, vol. 15, no. 1, pp. 71-83, 2012.

2011

42. P.Chatterjee, **S.Basu**, M.Kundu, M.Nasipuri and D.Plewczynski, "PSP_MCSVM: brainstorming consensus prediction of protein secondary structures using two-stage multiclass support vector machines," *Journal of Molecular Modeling*, Volume 17, Issue 9, pp 2191-2201, 2011.
43. P.Chatterjee, **S.Basu**, M.Kundu, M.Nasipuri and D.Plewczynski, "PPI_SVM: Prediction of protein-protein interactions using machine learning, domain-domain affinities and frequency tables", *Cellular & Molecular Biology Letters*, Volume 16, Number 2, 264-278, 2011.

2010

44. **S. Basu**, N. Das, R. Sarkar M. Kundu, M. Nasipuri, D. K. Basu, "A novel framework for automatic sorting of postal documents with multi-script address blocks *Pattern Recognition, Elsevier* 43(10): pp. 3507-3521 (2010).
45. **S. Basu** and D. Plewczynski, "AMS 3.0: Prediction of Post-Translational Modifications," *BMC Bioinformatics* 2010, 11:210.

2009

46. **S.Basu**, N.Das, R.Sarkar M.Kundu, M.Nasipuri, D.K.Basu, "A Hierarchical Approach to Recognition of Handwritten Bangla Characters", *Pattern Recognition, Elsevier*, vol. 42, no. 7, pp. 1467 – 1484, 2009.

2007

47. **S.Basu**, C.Chaudhury, M.Kundu, M.Nasipuri, D.K.Basu, "Text Line Extraction from Multi Skewed Handwritten Documents," *Pattern Recognition, Elsevier*, vol. 40, no. 6, pp. 1825 – 1839, 2007.

List of Publications in other Refereed Journals with ISSN:

1. Dhar, D., Chakraborty, N., Choudhury, S., Paul, A., Mollah, A. F., **Basu, S.**, & Sarkar, R. "Multilingual Scene Text Detection Using Gradient Morphology," *International Journal of Computer Vision and Image Processing (IJCVIP)*, 10(3), 31-43, 2020.
2. Anirban Mukhopadhyay, Sourav Kumar, Souvik Roy Chowdhury, Neelotpal Chakraborty, Ayatullah Faruk Mollah, **Subhadip Basu**, Ram Sarkar, "Multi-Lingual Scene Text Detection Using One-Class Classifier," *International Journal of Computer Vision and Image Processing (IJCVIP)*, Vol. 9 (2), pp. 48-85, 2019.
3. K Sengupta, S Saha, P Chatterjee, M Kundu, M Nasipuri, **S. Basu**, "Identification of Essential Proteins by Detecting Topological and Functional Clusters in Protein Interaction Network of *Saccharomyces Cerevisiae*," *International Journal of Natural Computing Research (IJNCR)* 8 (1), 31-51, 2019.
4. Pranati Rakshit, Nirmal Das, Mita Nasipuri, **Subhadip Basu**, "Classification of normal and anomalous regions in 3D human cerebrovascular phantom" *International Journal of Scientific and Engineering Research (in press)*, ISSN 2229-5518.
5. Indranil Guha, Nirmal Das, Pranati Rakshit, Mita Nasipuri, Punam K. Saha, **Subhadip Basu**, "A semiautomatic approach for segmentation of carotid vasculature from patients' CTA images", *Innovations in Systems and Software Engineering, Springer* Volume 13, Issue 4, pp 243–250, 2017.
6. M H Mahalat, A F Mollah, **Subhadip Basu**, Mita Nasipuri, "Design of Novel Post-Processing Algorithms for Handwritten Arabic Numerals Classification", *International Journal of Applied Pattern Recognition*, vol. 4(4), pp. 342–357, 2017.
7. Soumi Paul, **Subhadip Basu**, Mita Nasipuri, "Microsoft Kinect in Gesture Recognition: A Short Review", *IJCTA*, 8(5), pp. 2071-2076, 2015.
8. Ankush Acharyya, Sandip Rakshit, Ram Sarkar, **S. Basu**, and M. Nasipuri. "Handwritten Word Recognition Using MLP based Classifier: A Holistic Approach.", *International Journal of Computer Science Issues*, Vol. 10, Issue 2, No 2, pp. 422-427, (2013).
9. Ayatullah Faruk Mollah, **S. Basu**, Mita Nasipuri, Dipak Kumar Basu, "Handheld Mobile Device Based Text Region Extraction and Binarization of Image Embedded Text Documents," *J. Intelligent Systems* 22(1), pp. 25-47.
10. Ayatullah Faruk Mollah, **Subhadip Basu**, Mita Nasipuri, "Handheld Device-based Character Recognition System for Camera Captured Images," *International Journal of Image and Graphics*, Vol. 13, No.04, pp. 1-21, 2013.
11. P. K. Singh, R. Sarkar, N. Das, **S. Basu**, M. Nasipuri, "Statistical Comparison of Classifiers for Script Identification from Multi-script Handwritten documents", *International Journal of Applied Pattern Recognition*, vol. 1, no. 2, pp. 152-172, 2014.
12. Sarkar, Ram, Nibaran Das, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "Extraction of Text Lines from Handwritten Documents Using Piecewise Water Flow Technique," *Journal of Intelligent Systems*, vol. 23 (3), pp. 245 - 260 (2014).
13. A. F. Mollah, N. Majumder, **S. Basu**, M. Nasipuri, "Design of an Optical Character Recognition System for Camera-based Handheld Devices", *Int. J. of Computer Science Issues*, Vol. 8, No. 4, pp. 283-289, July, 2011.
14. Satadal Saha, **S. Basu** and Mita Nasipuri, "Automatic Localization and Recognition of License Plate Characters for Indian Vehicles", *International Journal of Computer Science & Emerging Technologies*, Vol. 2, No. 4, pp. 520-533, August 2011.
15. S. Saha, **S. Basu** and M. Nasipuri, "Localization of License Plates from Indian Vehicle Images Using Iterative Edge Map Generation Technique", *Journal of Computing*, Vol. 3, Issue 6, pp. 48-57, June 2011, ISSN: 2151-9617.
16. S. Saha, **S. Basu** and M. Nasipuri, "Hierarchical Segmentation of Falsely Touching Characters from Camera Captured Degraded Document Images", *International Journal of Computer Science Issues*, Vol. 8, Issue 4, No. 2, pp. 90-98, July 2011, ISSN: 1694-0814.
17. Nibaran Das, Bindaban Das, Ram Sarkar, **S. Basu**, Mahantapas Kundu and Mita Nasipuri, "Handwritten Bangla Basic and Compound character recognition using MLP and SVM classifier," *Journal of Computing*, Volume 2, Issue 2, pp.109-115, February 2010, ISSN: 2151-9617.
18. Satadal Saha, **S. Basu**, Mita Nasipuri and Dipak Kr. Basu, "A Hough Transform based Technique for Text Segmentation," *Journal of Computing*, Volume 2, Issue 2, pp.134-141, February 2010, ISSN: 2151-9617.
19. Ayatullah Faruk Mollah, **S. Basu** and Mita Nasipuri, "Text/Graphics Separation and Skew Correction of Text Regions of Business Card Images for Mobile Devices," *Journal of Computing*, Volume 2, Issue 2, pp.96-102, February 2010, ISSN: 2151-9617.
20. S. Rakshit, K.S. Sengupta, **S. Basu**, " Handwritten Document Management System: Key challenges and probable Solutions for Indian Railway and Healthcare Industries," *International Journal of Advanced Research in Computer Science*, vol.2, no.5, pp. 430-434, 2011.
21. Ram Sarkar, Nibaran Das, **S. Basu**, Mahantapas Kundu, Mita Nasipuri and Dipak Kumar Basu, "Word level Script Identification from Bangla and Devanagri Handwritten Texts mixed with Roman Script," *Journal of Computing*, Volume 2, Issue 2, pp.103-108, February 2010, ISSN: 2151-9617.

22. S. Saha, **S. Basu**, M. Nasipuri and D. K. Basu, "License Plate localization from vehicle images: An edge based multi-stage approach", *International Journal on Recent Trends in Computer Engineering*, Academy Publisher, Finland, vol. 1, no. 1, pp. 284-288, May 2009. ISSN: 1797-9617.
23. P. Chatterjee, **S. Basu**, M. Kundu, M. Nasipuri, D. K. Basu, "Improved prediction of Multi-domains in protein chains using a Support Vector Machine," *International Journal on Recent Trends in Engineering*, Academy Publisher, Finland, Vol. 2, No. 3, pp.78-81, November 2009. ISSN: 1797-9617.
24. R.Sarkar, S.Malakar, N.Das, **S.Basu**, M.Kundu, M.Nasipuri, "Word Extraction and Character Segmentation from Text Lines of Unconstrained Handwritten Bangla Document Images," *Journal of Intelligent Systems*, De Gruyter, vol. 20, Issue 3, pp. 227-260, 2011.
25. R. Sarkar, S. Malakar, N. Das, **S. Basu**, M. Nasipuri, "A Script Independent Technique for Extraction of Characters from Handwritten Word Images", *International Journal of Computer Applications*, vol.1, no. 23, pp. 85-90, 2010. ISSN: 0975 – 8887.
26. S. Rakshit, S.S.Das, K.S. Sengupta, **S. Basu**, "Automatic Processing of Structured Handwritten Documents: An Application for Indian Railway Reservation System," *International Journal of Computer Applications*, vol.6, no. 11, pp. 26-30, 2010.
27. S. Saha, **S. Basu**, M. Nasipuri, D. K. Basu, "Localization of License Plates from Surveillance Camera Images: A Color Feature Based ANN Approach", *International Journal of Computer Applications*, vol.1, no. 23, pp. 27-31, 2010. ISSN: 0975 – 8887.
28. D. K. Sil, **S. Basu**, M. Nasipuri, "An adaptive fuzzy technique for real-time detection of multiple faces against a complex background," *International Journal of Computer Applications*, vol.1, no. 23, pp. 21-26, 2010. ISSN: 0975 – 8887.
29. N. Das, S. Pramanik, R. Sarkar, **S. Basu**, P.K.Saha, "Recognition of Isolated Multi-Oriented Handwritten/Printed Characters using a Novel Convex-Hull Based Alignment Technique," *International Journal of Computer Applications*, vol.1, no. 23, pp. 40-45, 2010. ISSN: 0975 – 8887.
30. A. F. Mollah, **S. Basu**, M. Nasipuri, "Segmentation of Camera Captured Business Card Images for Mobile Devices", *International Journal of Computer Science and Applications*, 1(1), pp. 33-37, June 2010.
31. N. Das, A. Murmu, S. Roy, R. Sarkar, **S. Basu**, "A Novel Scheme for Editing and Inter Conversion between ASCII / ISCII / Unicode Encoded Multilingual Documents", *Language Forum*, vol. 35, no. 2, July-Dec 2009.

Books / Edited Volumes:

1. Bhattacharjee, D., Kole, D.K., Dey, N., **Basu, S.**, Plewczynski, D. (Eds.), Proceedings of International Conference on Frontiers in Computing and Systems (COMSYS-2020), held on January 13-15, 2020 at Jalpaiguri Government Engineering College, West Bengal, India.
2. A.F. Mollah, **S. Basu**, M Nasipuri, "Camera Document Processing for Mobile Devices", LAP Lambert Academic Publishing, 2015.
3. Jana, Debasish, Debotosh Bhattacharjee, **Subhadip Basu**, Sarbani Roy, Sudip Kumar Naskar, Nibaran Das (Eds.), Proceedings of the 2nd IEEE International Conference on Recent Trends in Information Systems (ReTIS) – 2015, held on 9-11 July at Jadavpur University, Kolkata.
4. P. K. Saha, U. Maulik, **S. Basu** (Eds.), Advanced Computational Approaches to Biomedical Engineering, Springer (2014).
5. **S. Basu**, M Kundu, M Nasipuri, "Development of OCR Techniques for Handwritten Bangla Text: OCR Techniques for Bangla Text", LAP Lambert Academic Publishing, 2012.
6. S Neogy, JK Sing, A Konar, U Maulik, **S. Basu**, D Jana, (Eds.), Proceedings of the International Conference on Recent Trends in Information Systems (ReTIS) – 2011, held on 21-23 December at Jadavpur University, Kolkata.
7. J.K.Sing, D. Bhattacharyya, **S. Basu**, N. Das, (Eds.), Proceedings of 2nd National Conference on Recent Trends in Information Systems (ReTIS) – 2008, held on 7-9 February at Jadavpur University, Kolkata.
8. A.R. Chaudhuri, **S. Basu**, K. Roy, N. Das, (Eds.), Proceedings of National Conference on Recent Trends in Information Systems (ReTIS) – 2006, held on 14-15 July at Jadavpur University, Kolkata.

Chapters contributed in Edited Volumes:

1. Das, Nibaran, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "Ambiguity Reduction through Optimal Set of Region Selection Using GA and BFO for Handwritten Bangla Character Recognition.", in Handbook of Research on Swarm Intelligence in Engineering, pp. 611-639, IGI Global, (2015).
2. Plewczynski, D., and **S. Basu**, "A Meta-learning Approach for Protein Function Prediction." Advanced Computational Approaches to Biomedical Engineering. Springer Berlin Heidelberg, pp. 113-128, Nov.2013.
3. Saha, Satadal, **Subhadip Basu** and Mita Nasipuri. "Development of a Stop-Line Violation Detection System for Indian Vehicles." In Handbook of Research on Computational Intelligence for Engineering, Science, and Business, pp. 200-227, IGI Global, (2013).
4. **S.Basu**, S.S.Seth, P.Sarkar, B.Das, S.Dey, S.Ghosh, "Recognition of Pincodes from Indian Postal Documents," Soft Computing, A. Singh and D Garg (Eds), pp. 239-245, Allied Publishers, India. ISBN:81-7764632-X.
5. **S.Basu**, J.Ghosh, B.Saha, "Development of a Smart Pointer for Easy Interaction with the Computer," Soft Computing, A. Singh and D Garg (Eds), pp. 516-520, Allied Publishers, India. ISBN:81-7764632-X.

List of Publications in Conference proceedings:

2020

1. T. Sahana, S. Paul, **S. Basu**, A.F. Mollah, Hand sign recognition from depth images with multi-scale density features for deaf mute persons, in: *Procedia Comput. Sci.*, Elsevier B.V., 2020: pp. 2043–2050. <https://doi.org/10.1016/j.procs.2020.03.243>.
2. T. Chakraborty, B. Barai, B. Chatterjee, N. Das, **S. Basu**, M. Nasipuri, Closed-Set Device-Independent Speaker Identification Using CNN, in: *Adv. Intell. Syst. Comput.*, Springer, 2020: pp. 291–299. https://doi.org/10.1007/978-981-15-1084-7_28.
3. Bandyopadhyay ,S.S., Halder, A.K., Chatterjee,P., Sroka, J., Nasipuri, M, **Basu, S.** 2020, Analysis of Large-Scale Human Protein Sequences Using an Efficient Spark Based DBSCAN Algorithm. In *Proceedings of International Conference on Frontiers in Computing and Systems, COMSYS-2020*, Springer.
4. Halder, A.K.,Mollah ,A.F., Chatterjee,P., Kole, D.K., **Basu, S.**, Plewczynski, D.,2020. SeqPIP-2020: Sequence based Protein Interaction Prediction Contest. In *Proceedings of International Conference on Frontiers in Computing and Systems, COMSYS-2020*, Springer.
5. Panda, S., Ash, S., Chakraborty, N., Mollah, A.F., **Basu, S.** and Sarkar, R., 2020. Parameter Tuning in MSER for Text Localization in Multi-lingual Camera-Captured Scene Text Images. In *Computational Intelligence in Pattern Recognition* (pp. 999-1009). Springer, Singapore.
6. Paul, S., Bhattacharyya, A., Mollah, A.F., **Basu, S.** and Nasipuri, M., 2020. Hand Segmentation from Complex Background for Gesture Recognition. In *Emerging Technology in Modelling and Graphics* (pp. 775-782). Springer, Singapore.
7. Neelotpal Chakraborty, Ayatullah Faruk Mollah, **Subhadip Basu**, Ram Sarkar. (In Press). A “Bright-on-Dark, Dark-on-Bright” Approach to Multi-lingual Scene Text Detection, *International Conference on Frontiers in Computing and Systems (COMSYS-2020)*, 2020.

2019

8. Chakraborty, T., Barai, B., Chatterjee, B., Das, N., **Basu, S.** and Nasipuri, M., 2019, June. Closed-Set Device-Independent Speaker Identification Using CNN. In *International Conference on Intelligent Computing and Communication* (pp. 291-299). Springer, Singapore.
9. B. Barai, D. Das, N. Das, **S. Basu**, M. Nasipuri, VQ/GMM-based speaker identification with emphasis on language dependency, in: *Adv. Intell. Syst. Comput.*, Springer Verlag, 2019: pp. 125–141. https://doi.org/10.1007/978-981-13-3702-4_8.
10. Basak S.N., Biswas A.K., Saha S., Chatterjee P., **Basu S.**, Nasipuri M. (2019) Target Protein Function Prediction by Identification of Essential Proteins in Protein-Protein Interaction Network. In: Mandal J.,Mukhopadhyay S., Dutta P., Dasgupta K. (eds) *Computational Intelligence, Communications, and Business Analytics. CICBA 2018. Communications in Computer and Information Science*, vol 1031. Springer, Singapore.
11. N. Chakraborty, S. Biswas, A.F. Mollah, **S. Basu**, R. Sarkar, “Multi-lingual Scene Text Detection by Local Histogram Analysis and Selection of Optimal Area for MSER,” *Commun. Comput. Inf. Sci.*, Springer Verlag, 2019: pp. 234–242. https://doi.org/10.1007/978-981-13-8578-0_18.

2018

12. M Jajoo, N Chakraborty, AF Mollah, S Basu, R Sarkar, “Script Identification from Camera-Captured Multi-script Scene Text Components”, *Recent Developments in Machine Learning and Data Analytics*, 159-166, 2018.
13. I Dutta, N Chakraborty, AF Mollah, S Basu, R Sarkar, “ Multi-lingual Text Localization from Camera Captured Images Based on Foreground Homogeneity Analysis,” *Recent Developments in Machine Learning and Data Analytics*, 149-158, 2018
14. **S. Basu**, P. Saha, E. Baczynska, N.Das, I. Saha, P. Rakshit, M. Roszkowska, J. Wlodarczyk, “Segmentation and assessment of structural plasticity of hippocampal dendritic spines from 3D confocal light microscopy”, in *SPIE Medical Imaging*, 2018.
15. B Barai, D Das, N Das, **S Basu**, M Nasipuri, Closed-Set Text-Independent Automatic Speaker Recognition System Using VQ/GMM, *Intelligent Engineering Informatics*, 337-346, 2018.
16. K Sengupta, S Saha, P Chatterjee, M Kundu, M Nasipuri, **S Basu**, Ranked Gene Ontology Based Protein Function Prediction by Analysis of Protein–Protein Interactions, *Information and Decision Sciences*, 419-427, 2018
17. P Rakshit, N Das, M Nasipuri, **S Basu**, Hemodynamic Analysis on Human Cerebrovascular Phantoms with and Without Aneurysm, *Proceedings of the International Conference on Computing and Communication Systems*, 2018
18. P Rakshit, N Das, M Nasipuri, **S Basu**, A Qualitative Hemodynamic Analysis on Human Cerebrovascular Phantom, *Progress in Advanced Computing and Intelligent Engineering*, 219-229, 2018.
19. I Guha, N Das, P Rakshit, M Nasipuri, PK Saha, **S Basu**, Design of Cerebrovascular Phantoms Using Fuzzy Distance Transform-based Geodesic Paths, *Progress in Intelligent Computing Techniques: Theory, Practice, and Applications*, 2018

2017

20. Soumyendu Sekhar Bandyopadhyay, Anup Kumar Halder, Piyali Chatterjee, Mita Nasipuri and Subhadip Basu,,” HdK-Means: Hadoop Based Parallel K-Means Clustering for Big Data”, accepted for publication in proceedings of IEEE CALCON 2017, Kolkata, India.
21. N. Das, P. Rakshit, M. Nasipuri, and **S. Basu**, “3-D Digital flows in cerebrovascular phantoms,” in *9th International conference on Pattern Recognition[ICAPR-2017]*, 2017.

22. Brijesh Sriwastava, **Subhadip Basu** and Ujjwal Maulik, “A quasi-clique mining algorithm for analysis of the human protein-protein interaction network”, accepted for publication in proceedings of 7th International Conference on Pattern Recognition and Machine Intelligence, PReMI-2017 to be held on December 05 - 08, 2017, Kolkata, India.
 23. Anup Kumar Halder, Pritha Dutta, Mahantapas Kundu, Mita Nasipuri and **Subhadip Basu**, “Prediction of Thyroid Cancer genes using an ensemble of Post Translational Modification, Semantic and Structural similarity based clustering results”, accepted for publication in proceedings of 7th International Conference on Pattern Recognition and Machine Intelligence, PReMI-2017 to be held on December 05 - 08, 2017, Kolkata, India.
 24. B Barai, D Das, N Das, **S Basu**, M Nasipuri, An ASR system using MFCC and VQ/GMM with emphasis on environmental dependency, Calcutta Conference (CALCON), 2017 IEEE, 362-366.
 25. S Paul, H Nasser, M Nasipuri, P Ngo, S Basu, I Debled-Rennesson, “A Statistical-Topological Feature Combination for Recognition of Isolated Hand Gestures from Kinect Based Depth Images”, IWCI-2017, Plovdiv, Bulgaria [Accepted].
 26. P. Dutta, **S. Basu** and M. Kundu, “A new hybrid semantic similarity measure using information content and topological features of the Gene Ontology graph”, 2017 International Conference on Computer Communication and Informatics.
 27. Abhimanyu Prasad, Sovan Saha, Piyali Chatterjee, **Subhadip Basu** and Mita Nasipuri, “Protein Function Prediction from Protein Interaction Network using Bottom-Up L2L Apriori Algorithm”, in the First International Conference on Computational Intelligence, Communications, and Business Analytics (CICBA - 2017) ,March 24-25, 2017.
- 2016**
28. P. Rakshit, N. Das, M. Nasipuri, **S. Basu**, “A Qualitative Hemodynamic Analysis on Human Cerebrovascular Phantom”, 1st International Conference on Advanced Computing and Intelligent Engineering (ICACIE), Dec. – 2016.
 29. S. Saha, P. Chatterjee, **S. Basu**, M. Kundu, M. Nasipuri, “Gene Ontology Based Function Prediction of Human Protein Using Protein Sequence and Neighborhood Property of PPI Network”, FICTA, Sep, 2016.
 30. Pranati Rakshit, Nirmal Das, Mita Nasipuri and **Subhadip Basu**, “Hemodynamic Analysis on Human Cerebrovascular Phantom with and without Aneurysm” in International Conference on Computing and Communication System– November 11-13, 2016 (I3CS-2016).
 31. R. Mitra, P. Chatterjee, **S. Basu**, M. Kundu, M. Nasipuri, “PLOC-Euk: An ensemble classifier for prediction of Eukaryotic Protein Subcellular Localization”, FICTA, Sep, 2016.
 32. I. Guha, N. Das, P. Rakshit, M. Nasipuri, P. K. Saha, **S. Basu**, “Design of cerebrovascular phantoms using fuzzy distance transform based geodesic paths”, 4th International Conference on Advanced Computing, Networking, and Informatics (ICACNI), Sep. 2016. [**Best Paper Award**]
 33. Sovan Saha, Piyali Chatterjee, **Subhadip Basu**, Mita Nasipuri “Functional Group Prediction of Un-annotated Protein by Exploiting its Neighborhood Analysis in Saccharomyces Cerevisiae Protein Interaction Network” in the Proceedings of 3rd International Doctoral Symposium on Applied Computation and Security Systems (ACSS) 2016.
 34. **Subhadip Basu**, Punam Kumar Saha, Dariusz Plewczynski, M. Roszkowska, M. Magnowska, Jakub Wlodarczyk, “3dSpAn: assessment of structural plasticity in hippocampal dendritic spines using quantitative 3-D morphometry”, EMBO Conference on Imaging the Brain, 18-21 May, 2016, Poland.
- 2015**
35. **S. Basu**, E. A. Hoffman, P. K. Saha, “Multi-scale opening-a new morphological operator,” in 18th International Conference on *Image Analysis and Processing—ICIAP 2015*, pp. 417-427. Springer International Publishing, 2015, Genova, Italy.
 36. Banerjee S., Ghosh D., **Basu S.** and Nasipuri M., “PhospredRF: Prediction of Protein Phosphorylation Sites using a consensus of Random Forest classifiers,” accepted in 6th International Conference and Workshop on Computing and Communication, Vancouver, Canada.
 37. Banerjee S., Ghosh D., **Basu S.** and Nasipuri M., “JUPred_SVM: Prediction of Phosphorylation Sites using a consensus of SVM classifiers,” accepted in 5th International Conference on Soft Computing for Problem Solving, India.
 38. Banerjee S., Ghosh D., **Basu S.** and Nasipuri M., “JUPred_MLP: Prediction of Phosphorylation Sites using a consensus of MLP classifiers,” accepted in 3rd International Conference on Frontiers in Intelligent Computing: Theory and Applications, India.
 39. P. Chatterjee, **S. Basu**, Julian Zubek, M. Kundu, M. Nasipuri and D. Plewczynski, “PDP-RF: Protein Domain Boundary Prediction using Random Forest Classifier,” in Pattern Recognition and Machine Intelligence (PReMI)-2015, Lecture Notes in Computer Science, Volume 9124, 2015, pp 441-450, Warsaw, Poland.
 40. Julian Zubek, Adam Boniecki, Maciej Mnich, Marcin Tatjewski, **Subhadip Basu** and Dariusz Plewczynski. “Multi-level machine learning prediction of protein-protein interactions,” in RECOMB 2015, Warsaw, Poland.
 41. Sagnik Banerjee, Angan Mitra, **Subhadip Basu** and Mita Nasipuri, “Greedy Supervised Feature Selection (GSFS) of Physicochemical Properties of Amino Acids,” in proceedings of First International Conference on ETCSIT, Kalyani, India, 2015. [**Best Paper Award**]

42. Shauvik Paul, Satadal Saha, **Subhadip Basu** and Mita Nasipuri, "Text Localization in Camera Captured Images using Adaptive Stroke Filter," in proceedings of Second International Conference on Information systems Design and Intelligent Applications (INDIA), Advances in Intelligent Systems and Computing, Springer, Volume 340, 2015, pp 217-225.
43. Sagnik Banerjee, **Subhadip Basu** and Mita Nasipuri, "Big data analytics and its prospects in computational proteomics," in proceedings of Second International Conference on Information systems Design and Intelligent Applications (INDIA), Advances in Intelligent Systems and Computing, Springer, Volume 340, 2015, pp 591-598.
44. Roy, Abhinaba, Nibaran Das, Amit Saha, Ram Sarkar, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "A Comparative Study of Feature Ranking Methods in Recognition of Handwritten Numerals." In *Artificial Intelligence and Evolutionary Algorithms in Engineering Systems*, pp. 473-479. Springer India, 2015.

2014

45. Satadal Saha, **Subhadip Basu**, and Mita Nasipuri, "A Comprehensive Survey on Different Techniques and Applications of Digital Image Processing," in Proc. of Int. Conf. on Computing, Communication & Manufacturing (ICCCM) 2014, pp. 75-87, Dec. 2014.
46. Roy, A., Das, N., Sarkar, R., **Basu, S.**, Kundu, M., & Nasipuri, M., "An Axiomatic Fuzzy Set Theory Based Feature Selection Methodology for Handwritten Numeral Recognition". In *ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of Computer Society of India-Vol I* (pp. 133-140). Springer International Publishing, (2014, January).

2013

47. D. Plewczynski, J. Zubek, M. Lukasik, I. Saha, **S. Basu**, "Linking multi-scale properties of biomolecules and machine learning prediction of their biological function," Workshop on Biomolecules and Nanostructures 4 (BIONANO4), Pultusk, Poland; 01/2013.
48. Sriwastava, Brijesh K., **Subhadip Basu**, Ujjwal Maulik, and Dariusz Plewczynski. "A Consensus Approach for Identification of Protein-Protein Interaction Sites in Homo Sapiens." In *Pattern Recognition and Machine Intelligence*, pp. 674-679. Springer Berlin Heidelberg, 2013.
49. Sriwastava, Brijesh Kumar, **Subhadip Basu**, and Ujjwal Maulik. "Fuzzy SVM with a Novel Membership Function for Prediction of Protein-Protein Interaction Sites in Homo sapiens." In *Pattern Recognition and Machine Intelligence*, pp. 668-673. Springer Berlin Heidelberg, 2013.
50. Singh, Pawan Kumar, Ram Sarkar, Nibaran Das, and **Subhadip Basu**. "Identification of Devnagari and Roman Scripts from Multi-script Handwritten Documents." In *Pattern Recognition and Machine Intelligence*, pp. 509-514. Springer Berlin Heidelberg, 2013.
51. Malakar, Samir, Rahul Kumar Das, Ram Sarkar, **Subhadip Basu**, and Mita Nasipuri. "Handwritten and Printed Word Identification Using Gray-scale Feature Vector and Decision Tree Classifier." *Procedia Technology* 10 (2013): 831-839.
52. Suchandra Payal, Piyali Chatterjee, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "Comparisons of Different Feature Sets for Predicting Carbohydrate-Binding Proteins From Amino Acid Sequences Using Support Vector Machine." In *Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012)*, pp. 519-529. Springer India, 2013.
53. Jhuma Dutta, **Subhadip Basu**, Debotosh Bhattacharjee, and Mita Nasipuri. "A Neural Network Based Image Watermarking Technique Using Spiral Encoding of DCT Coefficients." In *Proceedings of the International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA)*, pp. 11-18. Springer Berlin Heidelberg, 2013.
54. Anupam Banerjee, Sumana Basu, Orachorm Mekkerdchoo, Georges Srzednicki, Mita Nasipuri, and **Subhadip Basu**, "Automatic classification of *A. muelleri* species from DNA fingerprints of *Amorphophallus* Genus", International Symposium on Agri-Foods for Health and Wealth (AFHW), Bangkok, 2013.
55. Banerjee, Ankita, Sudipta Dey, Shubhankar Parui, Mita Nasipuri, and **Subhadip Basu**. "Design of 3-D Phantoms for Human Carotid Vasculature." In *Advances in Computing and Communications (ICACC)*, 2013 Third International Conference on, pp. 347-350. IEEE, 2013.
56. Banerjee, Ankita, Sudipta Dey, Shubhankar Parui, Mita Nasipuri, and **Subhadip Basu**. "Synthetic reconstruction of human carotid vasculature using a 2-D/3-D interface." In *Advances in Computing, Communications and Informatics (ICACCI)*, 2013 International Conference on, pp. 60-65. IEEE, 2013.

2012

57. I. Saha, D. Plewczynski, U. Maulik, **S. Basu**, "AMS 4.0: 2012 update of AutoMotif phosphorylation sites identification tool," 11th European Conference on Computational Biology (ECCB), Basel, Switzerland; 01/2012.
58. Anupam Banerjee, Sumana Basu, Orachorm Mekkerdchoo, Georges Srzednicki, Mita Nasipuri, and **Subhadip Basu**. "Automatic classification of *A. paeoniifolius* species from DNA fingerprints of *Amorphophallus* Genus." In *Communications, Devices and Intelligent Systems (CODIS)*, 2012 International Conference on, pp. 580-583. IEEE, 2012.
59. Abhinaba Roy, Navonil Mazumder, Nibaran Das, Ram Sarkar, **Subhadip Basu**, and Mita Nasipuri. "A new quad tree based feature set for recognition of handwritten bangla numerals." In *Engineering Education: Innovative Practices and Future Trends (AICERA)*, 2012 IEEE International Conference on, pp. 1-6. IEEE, 2012.

60. Sovan Saha, Piyali Chatterjee, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "Improving prediction of protein function from protein interaction network using intelligent neighborhood approach." In *Communications, Devices and Intelligent Systems (CODIS), 2012 International Conference on*, pp. 584-587. IEEE, 2012.
61. Tania Chatterjee, Piyali Chatterjee, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "Protein function by minimum distance classifier from protein interaction network." In *Communications, Devices and Intelligent Systems (CODIS), 2012 International Conference on*, pp. 588-591. IEEE, 2012.
62. Abhinaba Roy, Nibar Das, Ram Sarkar, **Subhadip Basu**, Mahantapas Kundu, and Mita Nasipuri. "Region selection in handwritten character recognition using Artificial Bee Colony Optimization." In *Emerging Applications of Information Technology (EAIT), 2012 Third International Conference on*, pp. 183-186. IEEE, 2012.
63. S. Malakar, B. Seraogi, R. Sarkar, N. Das, **S. Basu**, M. Nasipuri, "Two-stage Skew Correction of Handwritten Bangla Document Images," In *Emerging Applications of Information Technology (EAIT), 2012 Third International Conference on*, pp. 303-306. IEEE, 2012.
64. S. Malakar, S. Halder, R. Sarkar, N. Das, **S. Basu**, M. Nasipuri, "Text line extraction from handwritten document pages using spiral run length smearing algorithm", in Proc. (CD) of International Conference on Communications, Devices and Intelligent Systems (CODIS), pp. 636-639, 28-29 Dec, 2012, Kolkata, India.
65. A. F. Mollah, **S. Basu** and M. Nasipuri, "Text Detection from Camera Captured Images Using a Novel Fuzzy-based Technique", In *Emerging Applications of Information Technology (EAIT), 2012 Third International Conference on*, pp. 291-294. IEEE, 2012.
66. A. F. Mollah, **S. Basu** and M. Nasipuri, "Computationally Efficient Implementation of Convolution-based Locally Adaptive Binarization Techniques", ICIP-2012, CCIS 292, Springer, pp. 159-168 (2012).
67. R. Sarkar, S. Halder, S. Malakar, N. Das, **S. Basu**, M. Nasipuri, "Text line extraction from handwritten document pages based on line contour estimation", in Proc. of 3rd International Conference on Computing, Communication and Networking Technologies (ICCCNT'12), 2012, Coimbatore, Tamilnadu, India.
68. R.Sarkar, S.Malakar, N.Das, **S. Basu**, M.Kundu and M.Nasipuri, "A font invariant character segmentation technique for printed Bangla word images," in proc. of the International Conference on Information Systems Design and Intelligent Applications-2012 (INDIA-2012), Vizag, India, pp. 739-746, January 5-7, 2012.
69. N.Das, K.Acharya, R.Sarkar, **S. Basu**, M.Kundu and M.Nasipuri, "A Novel GA-SVM based Multistage Approach for recognition of Handwritten Bangla Compound Characters," in proc. of the International Conference on Information Systems Design and Intelligent Applications-2012 (INDIA-2012), Vizag, India, pp. 145-152, January 5-7, 2012.
70. P.Chatterjee, **S. Basu**, M.Kundu and M.Nasipuri, "Improving prediction of interdomain linkers in protein sequences using a consensus approach," in proc. of the International Conference on Information Systems Design and Intelligent Applications-2012 (INDIA-2012), Vizag, India, pp. 111-118, January 5-7, 2012.
71. S. Saha, **S. Basu** and M. Nasipuri, "License Plate Localization using Vertical Edge Map and Hough Transform Based technique," in proc. of the International Conference on Information Systems Design and Intelligent Applications-2012 (INDIA-2012), Vizag, India, pp. 649-656, January 5-7, 2012.
72. B. Sriwastava, **S. Basu**, U. Maulik and D. Plewczynski, "Prediction of E.coli protein-protein interaction sites using inter-residue distances and high-quality-index features," in proc. of the International Conference on Information Systems Design and Intelligent Applications-2012 (INDIA-2012), Vizag, India, pp. 837-844, January 5-7, 2012.
73. S. Saha, **S. Basu** and M. Nasipuri, "Binarization of Document Images Using Hierarchical Histogram Equalization Technique with Linearly Merged Membership Function," in proc. of the International Conference on Information Systems Design and Intelligent Applications-2012 (INDIA-2012), Vizag, India, pp. 639-647, January 5-7, 2012.

2011

74. A. F. Mollah, **S. Basu** and M. Nasipuri, "Binarizing Text Regions Extracted from Camera Captured Multi-content Document Images", in Proc. National Conf. on Image Processing and Computing, Coimbatore, India, Nov, 2011.
75. P Das, P Chatterjee, S Basu, M Kundu, M Nasipuri, "Prediction of Protein-Protein Interaction using validated domain-domain interaction," in proc. 2011 Annual IEEE India Conference (INDICON), pp 1-5, 2011.
76. **S. Basu**, M. L. Raghavan, E. A. Hoffman, P. K. Saha, "Multi-scale opening of conjoined structures with shared intensities: methods and applications," in Proc. IEEE International conference on Intelligent Computation and Bio-Medical Instrumentation (ICBMI 2011), Wuhan, China, December 14 - 17, , pp. 128-131, 2011.
77. **S. Basu**, M. L. Raghavan, P. K. Saha, "Vascular segmentation in CT angiography for patients with intracranial aneurysms using a new multi-scale opening algorithm," in Proc. of International conference on Bio-Medical Engineering (ICBME 2011), Manipal, India, pp. 252-257, December 10 - 12, 2011.
78. R. Sarkar, S. Moulik, N. Das, **S. Basu**, M. Nasipuri, M. Kundu, "Suppression of non-text components in handwritten document images", in proc.(CD) International Conference on Image Information Processing (ICIIP-11), Shimla, India, November 3-5, 2011.

79. S. Malakar, P. Ghosh, R. Sarkar, N. Das, **S. Basu**, M. Nasipuri, "An Improved Offline Handwritten Character Segmentation Algorithm for Bangla Script", in proc. (CD) 5th Indian International Conference on Artificial Intelligence (IICAI-11), Tumkur, India, December 14-16, 2011.
80. R. Sarkar, S. Moulik, N. Das, **S. Basu**, M. Nasipuri, D. K. Basu, "Word extraction from unconstrained handwritten Bangla document images using Spiral Run Length Smearing Algorithm", in proc. (CD) 5th Indian International Conference on Artificial Intelligence (IICAI-11), in Tumkur, India, December 14-16, 2011.
81. N. Das, P.S. Roy, R. Sarkar, **S. Basu**, M. Kundu, M. Nasipuri, D.K. Basu, "CPC – a Novel Mapping Technique for Inter Conversion Between multi-script/multi-standard non-Unicode and Unicode Encoded Documents," in: 2nd International Conf. on Computer Processing of Bangla-2011, Dhaka, Bangladesh, 2011, pp. 15-21.

2010

82. P. Chatterjee, S. Basu, M. Nasipuri, "Improving prediction of protein secondary structure using physicochemical properties of amino acids," in proceedings of the ACM International Symposium on Biocomputing, 15-17 February, Calicut, Kerala, India. ISBN: 978-1-60558-722-6.
83. A. F. Mollah, S. Basu and M. Nasipuri, "Text Extraction and Segmentation from Multi-skewed Business Card Images for Mobile Devices", Proc. IEEE PGSPC 2010, pp. 57-61.

2009

84. A. F. Mollah, **S. Basu**, N. Das, R. Sarkar, M. Nasipuri, M. Kundu, "A Fast Skew Correction Technique for Camera Captured Business Card Images," in proceedings (CD) of IEEE INDICON-2009, pp. 629-632, 18-20 December, Gandhinagar, Gujrat. DOI: 10.1109/INDCON.2009.5409427
85. **S. Basu**, N.Das, R.Sarkar, M.Kundu, M.Nasipuri, D.K.Basu, "Recognition of Numeric Postal Codes from Multi-script Postal Address Blocks," in proceedings of 3rd International conference on Pattern Recognition and Machine Intelligence (PREMI), pp. 381-386, 16-21 December 2009, IIT-Delhi.
86. A. Khandelwal, P. Choudhury, R. Sarkar, **S. Basu**, M. Nasipuri, N. Das, "Text Line Segmentation for Unconstrained Handwritten Document Images using Neighborhood Connected Component Analysis," in proceedings of 3rd International conference on Pattern Recognition and Machine Intelligence (PREMI), pp. 369-374, 16-21 December 2009, IIT-Delhi.
87. R. Sarkar, **S. Basu**, N. Das, A. F. Mollah, M. Kundu, M. Nasipuri, "Line Extraction from Unconstraint Handwritten Document Pages using Piece-wise Water-flow Technique", in proceedings (CD) of 4th Indian International Conference on Artificial Intelligence (IICAI), pp. 1861-1872, 16-18 Dec, 2009, Tumkur, India.
88. N. Das, **S. Basu**, R. Sarkar, M. Kundu, M. Nasipuri, "Handwritten Bangla Compound Character Recognition: Potential Challenges and Probable Solution", in proceedings (CD) of 4th Indian International Conference on Artificial Intelligence (IICAI), pp. 1901-1913, 16-18 Dec, 2009, Tumkur, India.
89. S. Rakshit, D. Ghosal, T. Das, S. Dutta, **S. Basu**, "Development of a multi-user recognition engine for handwritten Bangla basic characters and digits," in proc. (CD) International Conference on Information Technology and Business Intelligence (ITBI-2009).
90. N. Das, **S. Basu**, R. Sarkar, M. Kundu, M. Nasipuri, D. K. Basu, "An Improved Feature Descriptor for Recognition of Handwritten Bangla Alphabet", in proceedings of ICSIP-2009, pp. 451-454, August 2009, Mysore, India.
91. A. F. Mollah, **S. Basu**, M. Nasipuri and D. K. Basu, "Text/Graphics Separation for Business Card Images for Mobile Devices", Proceedings of the Eighth IAPR International Workshop on Graphics Recognition (GREC), pp. 263-270, July 2009, France.
92. N. Das, S. Pramanik, **S. Basu**, P. K. Saha, R. Sarkar, M. Kundu, M. Nasipuri, "Recognition of Handwritten Bangla Basic Characters and Digits using Convex Hull based Feature Set", in proceedings of AIPR-09, pp. 380-386, July, 2009, Orlando, USA.
93. N. Das, S. Pramanik, **S. Basu**, P. K. Saha, R. Sarkar, M. Kundu, "Design of a novel convex hull based feature set for recognition of isolated handwritten Roman numerals", in proceedings (CD) of UB-NE ASEE 2009 conference, University of Bridgeport, USA.
94. N. Das, **S. Basu**, P. K. Saha, R. Sarkar, M. Kundu, M. Nasipuri, "A GA Based approach for selection of local features for recognition of handwritten Bangla numerals", in proceedings (CD) of UB-NE ASEE 2009 conference, University of Bridgeport, USA.
95. S. Saha, **S. Basu**, M. Nasipuri, D. K. Basu, "A novel scheme for binarization of vehicle images using hierarchical histogram equalization technique", Proceedings of 1st International Conference on Computer, Communication, Control and Information Technology (C3IT 2009), pp. 270-275, Academy of Technology, Adisaptagram, February 06-07, 2009.
96. S. Rakshit, **S. Basu**, "Development of a multi-user handwriting recognition system using Tesseract open source OCR engine", Proceedings of 1st International Conference on Computer, Communication, Control and Information Technology (C3IT 2009), pp. 240-247, Academy of Technology, Adisaptagram, February 06-07, 2009.

97. S. Saha, **S. Basu**, M. Nasipuri, D. K. Basu, "An Offline Technique for Localization of License Plates for Indian Commercial Vehicles", Proceedings of IEEE National Conference on Computing and Communication Systems (COCOSYS-09), UIT, Burdwan, pp. 206-211, January 02-04, 2009.
98. S. Saha, **S. Basu**, M. Nasipuri, D. K. Basu, "Development of an automated Red Light Violation Detection System (RLVDS) for Indian vehicles", Proceedings of IEEE National Conference on Computing and Communication Systems (COCOSYS-09), UIT, Burdwan, pp. 59-64, January 02-04, 2009.
99. A. F. Mollah, **S. Basu**, N. Das, R. Sarkar, M. Nasipuri, M. Kundu, "Binarizing Business Card Images for Mobile Devices", in Proc. of 2nd International Conference on Advances in Computer Vision and Information Technology (ACVIT), pp. 968-975, 16-19 Dec 2009, Aurangabad, India.
100. A. F. Mollah, **S. Basu**, N. Das, R. Sarkar, M. Nasipuri, M. Kundu, Text Region Extraction from Business Card Images for Mobile Devices, in *Trends in Information Technology and Business Intelligence*, R. K. Jena(Ed.), pp. 227-235, ITBI, India, 2009.
101. S. Rakshit, **S. Basu**, Hisashi Ikeda, "Development of a multi-user handwritten character recognition engine for information Just In Time (iJIT)," *Trends in Information Technology and Business Intelligence*, R. K. Jena (Ed.), pp. 227-235, ITBI, India, 2009.
102. Das, N., B. Mandal, **S. Basu**, R. Sarkar, M. Kundu, and M. Nasipuri. "An SVM-MLP classifier combination scheme for recognition of handwritten Bangla digits." ACVIT-2009, India (2009): 615-623.
103. S. Rakshit, A. Kundu, M. Maity, S. Mandal, S. Sarkar, **S. Basu**, "Recognition of handwritten Roman Numerals using Tesseract open source OCR engine" ACVIT-2009, India (2009): 572-577.
- 2008**
104. S. Rakshit, **S. Basu**, "Recognition of Handwritten Roman Script Using Tesseract Open source OCR Engine", in Proc. of the National Conference on NAQC, pp. 141-145, September 2008, Kolkata.
105. **S. Basu**, K. Konishi, N. Furukawa, H. Ikeda, "A novel scheme for retrieval of handwritten textual annotations for information Just In Time (iJIT)", in proceedings (CD) IEEE Region 10 Conference (TENCON) -2008, Hyderabad, November 2008.
106. R. Sarkar, N. Das, **S. Basu**, M. Kundu, M. Nasipuri, D. K. Basu, "A two-stage approach for segmentation of handwritten Bangla word images," in Proc. of the 11th International Conference on Frontiers in Handwriting Recognition (ICFHR), pp. 403-408, Montreal, Canada, 2008.
107. R. Sarkar, B. Sen, N. Das, **S. Basu**, "Fuzzyfication to the Technique of Unconstrained Handwritten Devanagari Script Segmentation", in Proc. of International Conference on Cognition and Recognition (ICCR-08), pp. 93-98, April 10-12, 2008, Mandya, Karnataka.
108. R. Sarkar, B. Sen, N. Das, **S. Basu**, "Handwritten Devanagari Script Segmentation: A non-linear Fuzzy Approach", in Proc. (CD) of IEEE Conference on AI Tools and Engineering (ICAITE-08), March 6-8, 2008, Pune.
109. S. Chakraborty, **S. Basu**, "Design of a Smart Unmanned Ground Vehicle for Hazardous Environments", in proc. of 2nd National Conference on Recent Trends in Information Systems (ReTIS-08), pp. 222-225, Feb 7-9, 2008, Kolkata.
110. R. Sarkar, N. Das, **S. Basu**, M. Kundu, "An improved fuzzy technique for segmentation of handwritten Bangla word images", in proc. of 2nd National Conference on Recent Trends in Information Systems (ReTIS-08), pp. 24-29, Feb 7-9, 2008, Kolkata.
111. P. Chatterjee, **S. Basu**, M. Kundu, M. Nasipuri, D. K. Basu, "Protein Secondary Structure Prediction through two-level Neural Networks using Position-specific Scoring Matrix and Physicochemical properties of Amino Acids" , Proceeding of national Conference NCCT'08, India, PP 201-205, February , 2008.
- 2007**
112. P. Chatterjee, **S. Basu**, M. Kundu, M. Nasipuri, D. K. Basu, "Protein Secondary Structure Prediction through Combination of Decisions from Multiple MLP classifiers", Proceeding of International Conference MS'07, India, PP 206-210, December 3-5, 2007.
113. N. Das, R. Sarkar, **S. Basu**, M. Kundu, M. Nasipuri, D. K. Basu, "A Soft Computing Paradigm for Handwritten Digit Recognition with application to Bangla digits", in Proc. of International Conference on Modeling and Simulation (MS'07), vol. 2, pp. 771-774, Kolkata, December-2007.
114. **S. Basu**, R. Sarkar, N. Das, M. Kundu, M. Nasipuri, D. K. Basu, "A Fuzzy Technique for Segmentation of Handwritten Bangla Word Images," International Conference on Computing: Theory and Applications, *iccta*, pp. 427-433, March-2007.
- 2006**
115. N. Das, A. F. Mollah, R. Sarkar, **S. Basu**, "A comparative study of different feature sets for recognition of handwritten Arabic numerals using a Multi Layer Perceptron," in Proc. National Conference on Recent Trends in Intelligent Computing, pp. 86-92, Nov-2006, Kalyani.
116. A. K. Singh, D. Nandi, A. Chatterjee, S. Basu, M. Chakraborti, **S. Basu**, "An Online Authentication System Based on Facial Images," In Proc. of National Conference on Recent Trends in Information Systems, pp. 224-227, 14-15 July - 2006, Jadavpur University

117. **S.Basu**, M.Kundu, M.Nasipuri, D.K.Basu, "A Two-Pass Fuzzy-Geno Approach to Pattern Classification", in Proc. of International Conference on Computer Processing of Bangla, pp. 130-134, Feb-2006, Dhaka.
118. D.K.Kole, **S.Basu**, "An Automated Group Key Authentication System Using Secret Image Sharing Scheme," in Proc. of the International Conference on Recent Trends in Information Systems, pp. 98-106, Kovilpatti, India, Jan. 2006.

2005

119. **S.Basu**, R.Sarkar, N.Das, M.Kundu, M.Nasipuri, D.K.Basu, "Handwritten Bangla digit recognition using classifier combination through DS technique," S. K. Pal *et.al.* (Eds.), Lecture Notes in Computer Science, Vol. 3776, PReMI, pp.236-241, Dec. 2005, ISI, Kolkata.
120. **S.Basu**, N.Das, R.Sarkar M.Kundu, M.Nasipuri, D.K.Basu, "An MLP based Approach for Recognition of Handwritten 'Bangla' Numerals," in Proc. 2nd Indian International Conference on Artificial Intelligence, pp. 407-417, Dec. 2005, Pune.
121. **S.Basu**, S.S.Seth, P.Sarkar, B.Das, S.Dey, S.Ghosh, "Development of a Multilingual Recognition Engine for Automatic Interpretation of Handwritten Form Documents," in Proc. of the 2nd National Conf. on Computer Processing of Bangla, pp. 251-257, Feb-2005, Dhaka.
122. **S.Basu**, N.Das, R.Sarkar, M.Kundu, M.Nasipuri, D.K.Basu, "Handwritten Bangla Alphabet Recognition using an MLP Based Classifier," in Proc. of the 2nd National Conf. on Computer Processing of Bangla, pp. 285-291, Feb-2005, Dhaka.

2004

123. **S.Basu**, S.Chakraborty, K.Mukherjee, S.K.Pandit, "Online Tracking of Skin Colour Regions against a Complex Background," in Proc. of IEEE INDICON, pp. 184-186, Dec-2004, Kharagpur.
124. **S.Basu**, C.Chaudhury, M.Kundu, M.Nasipuri, D.K.Basu, "A Two Pass Approach to Pattern Classification," N. R. Pal *et.al.* (Eds.), Lecture Notes in Computer Science, Vol. 3316, ICONIP, pp. 781-786, Nov-2004, Kolkata.
125. **S.Basu**, S.Dey, K.Mukherjee, T.S.Jana, "Online Interpretation of Numerical Sign Language using 2-d Skeletal Model," in Proc. of Intl. Conf. on Communication Devices and Intelligent Systems (CODIS), pp. 570-573, Jan-2004, Kolkata.

2003

126. **S.Basu**, C.Chaudhury, M.Kundu, M.Nasipuri, D.K.Basu, "Skew Angle Correction and Line Extraction from Unconstrained Handwritten Bengali Text," in Proc. of 5th Intl. Conf. on Advances in Pattern Recognition, pp. 271-274, Dec-2003, ISI, Kolkata.

2002

127. **S.Basu**, C.Chaudhury, M.Kundu, M.Nasipuri, D.K.Basu, "Segmentation of Offline Handwritten Bengali Script," in Proc. of 28th IEEE ACE, pp. 171-174, Dec-2002, Science City, Kolkata.

Invited Talks/Special Lectures Delivered:

International

1. “Is Fostamatinib a possible drug for COVID-19? – A computational study,” Rigel Pharmaceuticals, USA (via Webinar), June 05, 2020.
2. “Bioimage Informatics@JU – Methods & Applications”, Hannover Medical School, Germany, May 15, 2018
3. “Quantitative 2-D/3-D morphometric analysis of individual dendritic spines”, Hannover Medical School, Germany, July 19, 2017.
4. “Multi-scale opening of conjoined fuzzy objects: theory and applications”, at LORIA, University of Lorraine, France, June 7, 2016.
5. “Digital water flows: theory and applications”, at LORIA, University of Lorraine, France, June 2, 2016.
6. “Pattern Recognition and Image Analysis: current research and future possibilities”, at LORIA, University of Lorraine, France, May 25, 2016.
7. “Pattern Recognition and Digital Image Processing in Predictive Analytics”, at the Faculty of Science and Technology, Bournemouth University, UK, on July 03, 2015.
8. Plenary talk on “Computational Predictive Models in Protein Informatics”, in Advances in Molecular Modeling Conference, at ICM, Warsaw, Poland, 2013.
9. “Multi-scale opening of conjoined structures in shared intensity space”, at Interdisciplinary Centre for Computational and Mathematical Modelling (ICM), University of Warsaw, Poland, 2012.
10. “Multi-Scale Topo-Morphologic Opening (MSTMO) Algorithm: Theory and Applications”, at the Nencki Institute of Experimental Biology, Warsaw, Poland, 2012.
11. “Multi-scale opening of conjoined structures in shared intensity space”, at the Interdisciplinary Centre for Computational and Mathematical Modelling (ICM), University of Warsaw, Poland, on 7th November, 2012.
12. “Segmentation of cerebro-vasculature in CT Angiography using multi-scale topomorphologic opening algorithm”, at the Medical Image Processing Group, University of Pennsylvania, Philadelphia, USA, on 15th April 2011.
13. “A discussion on some applications of pattern/image analysis”, at the Department of Computer Science, University at Buffalo, The State University of New York, USA, on 22nd April 2011.
14. “Some Techniques on different Pattern Recognition Applications”, at the Interdisciplinary Centre for Computational and Mathematical Modelling (ICM), University of Warsaw, Poland, on 26th August, 2009.

National

1. Invited Lecture on “Big Data Analytics Using Spark” at STTP on Big Data Analytics Using Soft Computing Tools at MCKVIE, on 12th October, 2020.
2. Invited Lecture on “Image Analytics for Business Applications” at STTP on Business Analytics at MCKVIE, on 9th October, 2020.
3. Keynote Lecture on “A computational approach to drug repurposing for COVID-19 treatment” at IBCS-2020 at the Department of IT, North Eastern Hill University, Shillong, India, 10th to 11th August 2020.
4. Invited Webinar on “Computational Contributions to COVID-19 Drug Discovery”, organized by the Department of Computer Science and Engineering, University Visvesvaraya College of Engineering (UVCE), Bangalore University, Bangalore, Karnataka, via Webinar on 18th July 2020.
5. Panel Discussion on “Is Data science and AI the Future of Statistics?” at St. Xavier’s College, Kolkata, on 14th March, 2020.
6. Invited Talk at the Ichapur Gun Shell Factory at the 02 days Awareness Training on ‘Industry 4.0’ on July 04, 2019.
7. Invited talk in the TEQIP sponsored one day seminar "Biomedical Engineering in Human Welfare" on 3rd August, 2018, arranged by the School of Bioscience and Engineering, Jadavpur University.
8. Invited talk at the three day Workshop on EMERGING TRENDS OF INFORMATION TECHNOLOGY (ETIT-2018) from 21 March to 23 March 2018, at Asutosh College second campus.
9. Guest Speaker at the 1st National Students Computing Conference on 21-22 April 2018 organized by Department of Computer Science and Engineering of VSSUT Burla.
10. Invited Speaker at Technology Awareness Programme, jointly conducted by IEEE Region10 Students Activities Committee, IEEE Computer Society and IEEE Chapter of Institute of Engineering and Management (IEM), Kolkata., 8th September 2017.
11. Invited Speaker at workshop on “Applications of Machine Learning” at NIT, Silchar, March 21, 2017.
12. Invited Speaker at workshop on “Image Processing and Advanced Computing” in technical collaboration with Computer Chapter, IEEE, Kolkata section, at MAKAUT, W.B., 15th March, 2017.

13. Invited Speaker at the one day seminar on “Recent Trends in Intelligent Computing” on 10th September 2016, at Supreme Knowledge Foundation Group of Institutions, Mankundu, Hooghly-712139.
14. "Pattern Recognition and Image Processing: Current Trends", Techno India University, Aug. 10, 2016.
15. "Research Trends in Pattern Recognition and Image Analysis", Techno India College of Technology, Jan. 15, 2016
16. "Pattern Recognition and Digital Image Processing in Predictive Analytics", UGC sponsored two days seminar on “Data Science: Analytics, interpretation and usability of Data” at GCECT, Kolkata on 25th and 26th February, 2016
17. “Research Trends in Pattern Recognition and Image Analysis”, Faculty Development Program on “Future Aspects of Computer Science and its applications” (FACSA 2016), at RCCIIT, Kolkata, Feb. 05, 2016.
18. “Predictive Analytics”, in the Workshop on BIG DATA Initiatives: Trends and Applications, Organized by Department of Computer Science & Engineering, BIT Mesra off Campus Deoghar, Sep. 19-20, 2015.
19. “Pattern Recognition and Digital Image Processing in Predictive Analytics”, in two-day national workshop on “Data Quality, Predictive Analytics and Business Decision Making”, 13-14 March 2015, Kaziranga University, Assam.
20. “Multi-Scale Opening of Fused Objects: Theory & Applications to Medical Imaging”, at the TEQIP-II Sponsored Two-day Seminar on, “Bio-Informatics And Bio-Medical Engineering (Bibme-2014)”, Organized by the MCET, Murshidabad, 05-06 April, 2014.
21. “Multi-scale opening of conjoined structures in shared intensity space”, organized by the Computational Intelligence Chapter, IEEE Kolkata section, at ECSU Unit, ISI, India, 2013.
22. “Multi-scale opening of conjoined structures in shared intensity space”, organized by the GOLD Affinity group, IEEE Calcutta section, at Jadavpur University, India, 2013.
23. “Applications on Pattern Recognition and Machine Learning,” at the workshop on Soft Computing, organized by MCKV Institute of Engineering, Howrah, 24th November, 2009.
24. “Optical Character Recognition: *Research trends and potential applications*”, at MCKV Institute of Engineering, Howrah, 31st October, 2009.
25. “Some Techniques on *Computer Vision Applications*”, at the one-day workshop on Recent Advances in Computer Vision and Applications, Calcutta Club, Kolkata, 12th April, 2009.
26. “Optical Character Recognition: Current *state-of-the-art* and *future research directions*”, at the School of Cultural Texts and Records, Jadavpur University, 2nd September, 2009.
27. “Some Techniques on *Handwritten Text Recognition* and *Computer Vision Applications*”, at the 3-day workshop on Pattern Recognition using Machine Learning Techniques, Netaji Subhash Engineering College, Kolkata, 27th March 2009.
28. “Retrieval of handwritten textual annotations using *Tesseract* open source OCR engine”, at a special lecture organized by the GOLD affinity group, IEEE Calcutta section, 26th December, 2008.
29. “Some Techniques on *Handwritten Text Recognition* and *Computer Vision Applications*”, at the Humboldt Kolleg, Dec. 11-13 2008, PURI, India.