

## Curriculum-Vitae

### Personal Information

Name : **Dr. Debasis Samanta**

Date of birth : 05 January, 1964

Present assignment : Associate Professor  
Department of Computer Science & Engineering  
Indian Institute of Technology Kharagpur

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### Educational Qualification

Examination Passed	Year of passing	Institute/University	Specialization
Ph.D.	2000	Indian Institute of Technology Kharagpur	Computer Science & Engineering
M.Tech.	1993	Jadavpur University	Computer Science & Engineering
B. Tech.	1991	Calcutta University	Computer Science & Engineering

### Research

#### Area of research:

*Human computer interaction, Brain computing, Computational intelligence, Data analytics, Biometric-based security system*

### Teaching & Experiences

1. Offered the major courses to the UG students of Computer Science & Engineering and PG Students of Information Technology disciplines: *Design and Analysis of Algorithms, Artificial Intelligence, Database Management Systems, Principles of Programming of Languages, Data Structures, Operating Systems, VLSI Design, Information System Design, Human Computer Interaction, Soft Computing, Data mining, Data analytics, etc.*
2. Supervised 11 PhD students, 14 MS (by research) students, 54 thesis for the PG students.

Organization	From	To	Designation	Nature of Job
North Eastern Regional Institute of Science & Technology, Itanagar, India	30.06.93	03.02.2004	Assistant Professor	Teaching, Research and development, Curriculum development, Administration
Indian Institute of Technology Kharagpur, India	04.02.04	Till date	Associate Professor	Teaching, research and administration

### Sponsored Research and Consultancy Projects

01. Standardization of Virtual Keyboards in Indic Languages.  
(DeitY Sanction Letter No. 11(16)/2012-HCC(TDIL) dated 12.08.2013)  
Principal Investigator Dr. D. Samanta (Consortium project with IITB, IITG, IITM, IITI, CDAC-Pune)  
Sponsoring Agency: Department of Information Technology, Ministry of Information and Communication Technology, Govt. of India  
Status: Ongoing
  
02. Virtual Lab on Software Engineering  
Principal Investigator: Dr. D. Samanta  
Sponsoring Agency: Ministry of Human Resource Development  
Status: Ongoing
  
03. Synthesis of Low Power High Performance Mixed VLSI CMOS Circuits  
(Sanction Letter No. SR/S3/EECE/0080/2010 dated 23.09.2010.)  
Principal Investigator: Dr. D. Samanta  
Co-Principal Investigators: Dr. A. S. Dhar  
Sponsoring Agency: Department of Science & Technology (DST), Govt. of India  
Status: Ongoing
  
04. Development of Multimodal User Interface to Internet for Common People in India.  
(DIT Sanction Letter No. DIT/R&D/TDC/13(4)/2007 dated 04.04.2007.)  
Principal Investigator Dr. D. Samanta  
Sponsoring Agency: Department of Information Technology, Ministry of Information and Communication Technology, Govt. of India  
Status: Completed
  
05. Enhanced SANYOG: A Portable Communication Tool for the Speech and Neuro Motor Impaired People.  
Principal Investigator: Prof. Anupam Basu  
Co-Principal Investigators: Dr. Debasis Samanta, Dr. Pabitra Mitra, Prof. Sudeshna Sarkar  
Sponsoring Agency: Media Lab Asia  
Status: Completed
  
06. DSM/UDSM Aware Synthesis of Low Power High Performance VLSI CMOS Circuits.  
(CSIR Sanction No. 22(0419)/06/EMR-II dated 13.10.2006.)  
Principal Investigator Dr. Debasis Samanta  
Sponsoring Agency: Council of Scientific and Industrial Research (CSIR), New Delhi  
Status: Completed, September, 2009
  
07. Online Authentication Checking System with IRIS Biometric.  
(Sanction Letter No. IIT/SRIC/ISIRD/2004-2005/OAC dated 07.05.2005.)  
Principal Investigator Dr. Debasis Samanta  
Sponsoring Agency: SRIC (ISIRD), IIT Kharagpur  
Status: Completed, December 2007.

08. An Integrated Framework for Testing Concurrent Object-Oriented Programs.  
(Sanction Letter No. SR/S3/EECE/58/2004-SERC-Engg dated 25.01.2005.)  
Principal Investigator: Prof. Rajib Mall  
Co-Principal Investigators: Dr. Debasis Samanta  
Sponsoring Agency: Department of Science & Technology (DST), Govt. of India  
Status: Completed, August 2008.

## Publications

### Books Published

01. **Object Oriented Programming with C++ and Java**  
Author: **Debasis Samanta**  
Publisher: Prentice Hall of India, New Delhi  
Year of publication: New Delhi, January 2000  
ISBN: ISBN: 978-81-203-1620-7  
Number of Pages: 295  
(17<sup>th</sup> Reprint, January 2013)
02. **Classic Data Structures, Second Edition**  
Author: **Debasis Samanta**  
Publisher: Prentice Hall of India, New Delhi  
Year of publication: New Delhi, July 2001, February 2009 (Second Edition)  
ISBN: 978-81-203-3731-2  
Number of Pages: 1032  
(26<sup>th</sup> Reprint, July, 2013)
03. **Unimodal and Multimodal Biometric Data Indexing**  
Author: Somnath Dey, **Debasis Samanta**  
Publisher: De Gruyter,  
Year of publication: Berlin Germany, June 2014  
ISBN: 978-1-61451-745-0

### Publications in Referred Journals

01. Debasis Kundu and Debasis Samanta, Enumerating Message Paths for Interaction Testing of Object-Oriented Systems, NASA Journal of Innovations in Systems and Software Engineering (ISSE), Springer (Online, November 2015).
02. Subhas Barman, Debasis Samanta and Samiran Chattopadhyay, Approach to Cryptographic Key Generation from Fingerprint Biometrics, International Journal of Biometrics (IJB), Inderscience, Vol. 7, No. 3, pp. 226-248, 2015.
03. Debasis Kundu, Monalisa Sarma, Debasis Samanta, A UML Model-Based Approach to Detect Infeasible Paths, Elsevier Journal of Systems and Software (JSS), Vol. 104 (2015), pp-71-92, 2015
04. Subhas Barman, Debasis Samanta and Samiran Chattopadhyay, Fingerprint-Based Cryptometric System for Network Security, EURASIP Journal on Information Security, Springer, (Accepted March 2014).
05. Sai Praveen and Debasis Samanta, "CRDOM : Cell re-ordering based Domino on-the-fly mapping", International Journal of VLSI Design and Communication Systems (VLSICS), pp. 13-31, Vol. 5, No. 2, 2014.

06. Sai Praveen and Debasis Samanta, "Clock Gating Approach to Low Power Domino Circuit Synthesis", International Journal of Computer Applications (IJCA), Acta Press, Vol. 36, Issue 4, December, 2014.
07. Somnath Dey, Om Prakash Singh, Debasis Samanta, Fingerprint Indexing using Minutiae-based Invariable Set of Multidimensional Features, International Journal of Biometrics (IJBM), Vol. 6, Issue 3, August, 2014
08. Manoj Kumar Sharma, Debasis Samanta, Word Prediction System for Text Entry in Hindi, ACM Transactions on Asian Language Information Processing (TALIP), Vol. 13(2), Article No. 8, June 2014
09. Santa Maity, Debasis Samanta, Clustering Web Search Results to Identify Information Domain, Emerging Trends in Computing and Communication, Springer Lecture Notes in Electrical Engineering, Vol. 298, pp. 291-303, 2014
10. Jyotirmay Dewangan, Somnath Dey, Debasis Samanta, *Face Images Database Indexing for Person Identification Problem*, International Journal of Biometrics and Bioinformatics (IJBB), Volume (7), Issue (2), 2013
11. Soumalya Ghosh, Debasis Samanta, *Analysis on Users Errors in Virtual Keyboards*, International Journal of Computer Application, Acta Press, Vol. 35, No. 2, pp. 145-151, March 2013.
12. Debasis Samanta, Sayan Sarcar, Soumalya Ghosh, *An Approach to Design Virtual Keyboards for Text Composition in Indian Languages*, International Journal of Human-Computer Interaction, Taylor & Francis, Vol. 29, pp. 516-540, June 2013.
13. Debasis Kundu, Debasis Samanta, and Rajib Mall, *Automatic Code Generation from Unified Modelling Language Sequence Diagrams*, IET Software Journal, Vol. 7, Issue 1, page 12-28, March 2013
14. Pradipta Kumar Saha, Debasis Samanta, Sayan Sarcar and Manoj Kumar Sharma, *Analysis of visual search features*, International Journal of Human Factors Modeling and Simulation, Inderscience Publishers, Vol. 3, No. 1, page 66-89, October 2012.
15. Somnath Dey, and Debasis Samanta, *Iris Data Indexing Method Using Gabor Energy Features*, IEEE Transaction on Information Forensics and Security, Vol. 7, No. 4, pp. 1192—1203, August 2012.
16. Debasis Kundu, Debasis Samanta, and Rajib Mall, *An Approach to Convert XMI Representation of UML Interaction Diagram into Control Flow Graph*, ISRN Journal of Software Engineering, Volume 2012, February 2012.
17. Ashalatha Nayak, and Debasis Samanta, *Synthesis of Test Scenario Using UML Sequence Diagram*, ISRN Journal of Software Engineering, Volume 2012, February 2012.
18. E. S. F. Najumdheen, R. Mall, D. Samanta, *Test Coverage Analysis based on an Object-Oriented Program Model*, Journal of Software Maintenance and Evolution: Research and Practice, **Wiley Interscience**, appear online June 2010.
19. E. S. F. Najumdheen, Rajib Mall, and Debasis Samanta, *Dependence Representation for Coverage Testing of Object-Oriented Programs*, Journal of Object Technology (JOT), Bertrand Meyer, ETH Zürich, Switzerland, pp. 1-23, Vol. 9, No. 4, July 2010.
20. Somnath Dey, Debasis Samanta, *Fast and Accurate Personal Identification Based on Iris Biometric*, International Journal of Biometrics (IJBM), Inderscience, Geneva, Switzerland, Vol. 2, No. 3, pp. 250-281, June 2010.

21. Ashalatha Nayak, Debasis Samanta, *Test Data Synthesis using UML Sequence Diagrams*, Journal of Object Technology, Bertrand Meyer, ETH Zürich, Switzerland, Vol: 09, No: 2, pp: 115-144, March-April, 2010.
22. Ashalatha Nayak, Debasis Samanta, *Synthesis of Test Scenarios using UML Activity Diagrams*, Journal of Software and System Modeling (SoSyM), Springer Berlin-Heidelberg, Vol. 10, Issue. 1, pp. 63-89, February 2011.
23. Samit Bhattacharya, Debasis Samanta, Anupam Basu, *Model Based Design of Scanning Input Communication Aids: State of the Art and Research Issues*, International Journal of Computers and Applications, Acta Press, Vol: 32, No: 3, pp. 257-271, August, 2009.
24. Tejas Joshi, Somnath Dey, Debasis Samanta, *Multimodal Biometrics – State of the Art in Fusion Techniques*, International Journal of Biometrics (IJBM), Inderscience, Special Issue on Multimodal Biometric and Biometric Fusion, Vol. 1, No. 4, pp. 393-417, July 2009.
25. Somnath Dey, Debasis Samanta, *An Efficient and Accurate Pupil Detection Method for Iris Biometric Processing*, International Journal of Computers and Applications, Acta Press, Vol: 32, No: 2, pp. 141-148, April, 2009.
26. Ashalatha Nayak, Debasis Samanta, *Model-Based Test Cases Synthesis using UML Interaction Diagrams*, ACM SIGSOFT Software Engineering Notes, ACM, Vol. 34, Issue 2, pp. 1-10, March 2009.
27. Debasish Kundu, Monalisa Sarma, Debasis Samanta, Rajib Mall, *System Testing for Object-Oriented System with Test Case Prioritization*, Journal of Software, Testing Verification and Reliability (STVR), Wiley, Chichester, UK , Vol: 19, No: 4, pp: 297 - 333, December, 2009.
28. E S F Najumdheen, Rajib Mall, Debasis Samanta, *A Dependence Graph-based Representation for Test Coverage Analysis of Object-Oriented Programs*, ACM SIGSOFT Software Engineering Notes, Vol. 34, Issue 2, pp. 11-18, March 2009.
29. Debasish Kundu, Debasis Samanta, *A Novel Approach to Generating Test Cases from UML Activity Diagrams"*, Journal of Object Technology (JOT), ETH Zurich, Vol. 8, No. 3, May-June, 2009.
30. Somnath Dey, Debasis Samanta, *A Novel Approach to Iris Localization for Iris Biometric Processing*, International Journal of Biomedical Science (IJBS), World Academy of Science, Engineering and Technology (WASET), Vol. 3, No. 3, Summer 2008, pp. 180-191.
31. Samit Bhattacharaya, Debasis Samanta, Anupam Basu, *Performance Models for Automatic Evaluation of Virtual Scanning Keyboards*, IEEE Transaction of Neural Science and Rehabilitation Engineering (TNSRE). Vol. 16, Issue 5, pp. 510-519, October, 2008.
32. Samit Bhattacharaya, Anupam Basu, Debasis Samanta *Computational Modeling of User Errors for the Design of Virtual Scanning Keyboards*, IEEE Transaction of Neural Science and Rehabilitation Engineering (TNSRE). Vol. 16, Issue 4, pp 400-409, August, 2008.
33. Samit Bhattacharaya, Debasis Samanta, Anupam Basu, *User Errors on Scanning Keyboards: Empirical Study, Model and Design Principles*, Elsevier Journal of Interacting with Computer (IWC). Vol. 20, Issue 3, pp. 406-418, May 2008.
34. Somnath Dey, Debasis Samanta, *Improved Iris Localization for Degraded Iris Images*, International Journal of Information Processing (IJIP), IISc Bangalore, Vol. 2, Issue 2, May, 2008.
35. Pradipta Biswas, Debasis Samanta, *Friend: A Communication Aid for Disabled Persons*, IEEE Transactions on Neural Systems & Rehabilitation Engineering (TNSRE), Volume 16, Issue 2, pp. 205-209, April, 2008.

36. Somnath Dey, Debasis Samanta, *Improved Feature Processing for Iris Biometric Authentication System*, International Journal of Computer Systems Science and Engineering, World Academy of Science Engineering and Technology (WASET), Vol. 4, No. 2, pp. 127-134, Spring 2008.
37. Somnath Dey, Debasis Samanta, *An Efficient Approach to Iris Detection for Iris Biometric Processing*, International Journal of Computer applications in Technology (IJCAT) Special Issue on Automated Identification Technology (AIT), Inderscience, Vol. 35, No. 1, March 2009.

### **Publications in Conference Proceedings**

01. Rajkumar Darbar, Prasanta Kumar Sen, Debasis Samanta, PressTact: Side Pressure-Based Input for Smartwatch Interaction, ACM SIGCHI Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems, pp. 2431-2438, 7-14 June, 2016, San Francisco, USA.
02. Rajkumar Darbar, Prasanta Kr Sen, Punyashlok Dash, Debasis Samanta, Using hall effect sensors for 3D space text entry on smartwatches, Proceeding of the Seventh International Conference on Intelligent Human Computer Interaction (IHCI 2015), Allahabad, India 12-14 December 2015, Procedia Computer Science Volume 84, 2016, pp. 79-85.
03. Rajkumar Darbar, , Punyashlok Dash, Debasis Samanta, ETAO Keyboard: Text Input Technique on Smartwatches, Proceeding of the Seventh International Conference on Intelligent Human Computer Interaction (IHCI 2015), Allahabad, India 12-14 December 2015, Procedia Computer Science, Volume 84, 2016, pp. 137-141
04. Girish Dalvi, Shashank Ahire, Nagraj Emmadi, Manjiri Joshi, Nirav Malsett, Debasis Samanta, Devendra Jalihal and Anirudha Joshi, A Protocol to Evaluate Virtual Keyboards for Indian Languages, 4<sup>th</sup> IndiHCI 2015 Conference, 17-19 December, 2015, IIT Guwahati, India
05. Rajkumar Darbar and Debasis Samanta, SurfaceSense: Smartphone Can Recognize Where It Is Kept, 4<sup>th</sup> IndiHCI 2015 Conference, 17-19 December, 2015, IIT Guwahati, India
06. Rajkumar Drabar and Debasis Samanta, MagiText : Around Device Magnetic Interaction for 3D Space Text Entry in Smartphone, IEEE Proceedings of the International Conference CONNECT 2015, Bangalore, July 10—11, 2015, IEEE Xplore
07. Subhas Barman, Debasis Samanta, Samiran Chattopadhyay, Sujoy Bag and Goutam Show, "An Efficient Minutiae Based Fingerprint Matching Approach Using Perimeter of Triangle Formed with Nearby Minutiae Points" In International Conference on Electronic Design, Computer Networks & Automated Verification (EDCAV 2015), 29-30 January 2015, NIT Shillong, India (Accepted) [proceeding: IEEE xplorer]
08. Subhas Barman, Samiran Chattopadhyay, Debasis Samanta, Sujoy Bag and Goutam Show, "An Efficient Fingerprint Matching Approach Based on Minutiae to Minutiae Distance Using Indexing With Effectively Lower Time Complexity", In 2014 International Conference on Information Technology (ICIT-2014), 22-24 December, 2014, Bhubaneswar, India (Accepted) [proceeding: IEEE xplorer]
09. Subhas Barman, Debasis Samanta, Samiran Chattopadhyay, "Fingerprint Based Symmetric Cryptography" in International Conference on High Performance Computing and Applications (ICHPCA-2014), 22-24 December 2014, Bhubaneswar, India Proceeding: IEEE Xplorer
10. Barman, Subhas, Samiran Chattopadhyay, and Debasis Samanta. "An Approach to Cryptographic Key Exchange Using Fingerprint." Second International Symposium on Security in Computing and Communications (SSCC-2014). Springer Berlin Heidelberg, 24-27

September 2014. New Delhi 162-172.

11. Barman, S.; Chattopadhyay, S.; Samanta, D., "An Approach to Cryptographic Key Distribution Through Fingerprint Based Key Distribution Center," *Advances in Computing, Communications and Informatics (ICACCI)*, 2014 International Conference on (pp.1629-1635). IEEE, 24-27 Sept. 2014
12. Subhash Barman, Debasis Samanta, Samiran Chattopadhyaya, An Approach of Biometric Based Cryptographic Key Sharing, *International Conference on Communication and Computing (ICC 2014)*, Bangalore, December 2014.
13. Sayan Sarcar, Tuhin Chakrabarty and Debasis Samanta, Design and Evaluation of a Dwell-free Eye Typing Technique, in the Proceedings of the 32nd ACM CHI conference on Human Factors in Computing Systems, 2014, to be held at Toronto, ON, Canada from 26th April – 1st May, 2014.
15. Tuhin Chakrabarty, Debasis Samanta, Exploring and Effective Interaction Mode for Visually Impaired People, Joint conference on APCHI 2013 and IndiaHCI2013, 24-27 September, 2013, Bangalore, India (Proceedings will appear in ACM SIGCHI).
16. Sayan Sarcar and Debasis Samanta, Eyeboard++ : An Enhanced Eye Gaze-based Text Entry System in Hindi, Joint conference on APCHI 2013 and IndiaHCI2013, 24-27 September, 2013, Bangalore, India (Proceedings will appear in ACM SIGCHI).
17. Manoj Kumar Sharma, Pradipta Kumar Saha, Sayan Sarcar, Debasis Samanta, *Error Quantifying Metrics for Text Entry Systems Augmented with Word Prediction* in the Proceedings of 11<sup>th</sup> Asia Pacific Conference on Computer Human Interaction (APCHI), 24-27 September, 2013, Bangalore, India
18. P Panwar, S Sarcar and D Samanta, EyeBoard: *A Fast and Accurate Eye Gaze-Based Text Entry System*, in IEEE Proceedings of the 4th International Conference on Intelligent Human Computer Interaction (IHCI), 27—29 December, 2012, Kharagpur, India.
19. Debasis Samanta, Soumalya Ghosh, Somnath Dey, Sayan Sarcar, Manoj Kumar Sharma, Pradipta Kumar Saha and Santa Maiti, *Development of Multimodal User Interfaces to Internet for Common People*, in IEEE Proceedings of the 4th International Conference on Intelligent Human Computer Interaction (IHCI), 27—29 December, 2012, Kharagpur, India.
20. Soumalya Ghosh, Debasis Samanta and Monalisa Sarma, *Cost of Error Correction Quantification with Bengali Text Transcription*, in IEEE Proceedings of the 4th International Conference on Intelligent Human Computer Interaction (IHCI), 27—29 December, 2012, Kharagpur, India.
21. Manoj Kumar Sharma, Pradipta Kumar Saha, Sayan Sarcar, Soumalya Ghosh, Debasis Samanta, Monalisa Sarma, *Error Quantifying Metrics for Text Entry Systems Augmented with Word Prediction*, in ACM SIGCHI Proceedings of the 10th Asia Pacific Conference on Computer Human Interaction (APCHI 2012), Matsue, Japan, 28-31 August, 2012 (Accepted but not presented).
22. Tuhin Chakraborty and Debasis Samanta, *BlindGuide: An Audio Based Eyes-Free Caller Guide for People with Visual Impairment*, in IEEE Proceedings of the 4th International Conference on Intelligent Human Computer Interaction (IHCI), 27—29 December, 2012, Kharagpur, India.

23. Sayan Sarcar, Debasis Samanta, Soumalya Ghosh, Monalisa Sarma, Indic Onscreen Keyboard for Text Entry in Bengali, In ACM SIGCHI Proceedings of the 10th Asia Pacific Conference on Computer Human Interaction (APCHI 2012), Matsue, Japan, 28-31 August, 2012 (Accepted).
24. S. Maiti, and D. Samanta, *Icon-Based Representation of Web Information* in IEEE Proceedings of the 4th International Conference on Intelligent Human Computer Interaction (IHCI), 27—29 December, 2012, Kharagpur, India.
25. Santa Maity, Debasis Samanta, Satya Ranjan Das, Monalisa Sarma, Language Independent Icon-Based Interface for Accessing Internet, in ACM Proceedings First International Conference on Advances in Computing and Communications (ACC 2011), 22-24 July, 2011 Kochi, Kerala, India
26. Soumalya Ghosh, Sayan Sarcar, Debasis Samanta, Designing an Efficient Virtual Keyboard for Text Composition in Bengali, in ACM SIGCHI Proceedings of 3rd International Conference on Human Computer Interaction (India HCI 2011), ACM Press, Bangalore, India, April 7-10, 2011.
27. Debasis Samanta, Manoj Sharma, Pradipta Saha, Sayan Sarcar, and Soumalya Ghosh, Accessing Dynamic Web Page in Users Language, in IEEE Proceedings of IEEE Students' Technology Symposium 2011(TechSym 2011), IIT Kharagpur, IEEE Xplore, January 14-16, 2011.
28. Sai Praveen, Debasis Samanta, Synthesis of Mixed CMOS VLSI Circuits using Unate Decomposition Algorithm, 3rd International Conference on Computer and Information Technology (ICCIT), 29-31 January, 2010, Cape Town, South Africa.
29. Manoj Sharma, Debasis Samanta, Survey on Parameters Effecting Text Prediction, IEEE Proceedings of TechSym 2010, April 3-4, 2010, IIT Kharagpur , IEEE Xplore, pp. 268-275, IEEE Press.
30. Santa Maity, Debasis Samanta, Iconic Interface to Access Information from Internet, IEEE Proceedings of TechSym 2010, April 3-4, 2010, IIT Kharagpur, IEEE Xplore, pp. 276-281, IEEE Press.
31. Soumalya Ghosh, Debasis Samanta, Adaptive Virtual Keyboard Design, IEEE Proceedings of TechSym 2010, April 3-4, 2010, IIT Kharagpur , IEEE Xplore, pp. 262-267, IEEE Press.
32. Sayan Sarcar, Debasis Samanta, Design of Virtual Keyboards for Indian Languages, IEEE Proceedings of TechSym 2010, April 3-4, 2010, IIT Kharagpur , IEEE Xplore, pp. 289-299, IEEE Press.
33. Tejas Joshi, Somnath Dey, Debasis Samanta, A Two-stage Algorithm for Core Point Detection in Fingerprint Images, IEEE Proceedings of TENCON 2009, 23-26, November, 2009, Singapore.
34. E S F Najumdheen, Rajib Mall, Debasis Samanta, Test Coverage Analysis for Object-Oriented Programs, in the Conference of 6th International Conference on Information Technology in Next Generation (ITNG, 2009) to be held during April 27-29, 2009, Las Vegas, Nevada, USA.
35. Debasis Samanta, Monalisa Sarma, User Interface Personalization based on User Model, in the Conference of 6th International Conference on Information Technology in Next Generation (ITNG, 2009) to be held during April 27-29, 2009, Las Vegas, Nevada, USA.
36. Monalisa Sarma, Prateek Rastogi and Debasis Samanta, Automatic Approach to State Based



Integration Testing of Object-Oriented Systems using UML Specifications, in the Conference of 6th International Conference on Information Technology in Next Generation (ITNG, 2009) to be held during April 27-29, 2009, Las Vegas, Nevada, USA.

37. Debasish Kundu, Debasis Samanta, An Approach to Automatic System Testing using UML Sequence Diagrams, IEEE Proceedings of Computer Software and Applications Conference (COMPSAC 2008), Turkey, Finland, August, 2008.
38. Debasish Kundu, Monalisa Sarma, Debasis Samanta, A Novel Approach to System Testing and Reliability Assessment Using Use Case Model, ACM Proceeding 1st India Software Engineering Conference (ISEC 08), ACM Press, pp. 242-249, 19-22, February 2008, Hyderabad, India.
39. Samit Bhattacharaya, Debasis Samanta, Anupam Basu, Study and Modeling of User Errors for Virtual Scanning Keyboard Design, ACM SIGCHI Proceedings of Computer Human Interaction (CHI 08), Florence, Italy, 5-10 April 2008.
40. Nirved Pandey, Debasis Samanta, DTM: A Macro Level Tool for Message Passing Libraries, IEEE-CS Proceedings of 15th International Conference on Advanced Computing & Communication, (ADCOM 2007), December 18-21, 2007.
41. Debasis Samanta, Pradipta Biswas, Designing Computer Interface for Physically Challenged Persons, IEEE-CS Proceedings of 10th International Conference on Information Technology (ICIT), Rourkela, India, December 22-24, 2007.
42. S. Dey and D. Samanta, Accurate Iris Boundary Detection in Iris-based Biometric Authentication Process, Second International Conference on Pattern Recognition and Machine Intelligence (PReMI'07), Springer-Verlag, LNCS 5220, December 18-22, 2007.
43. Debasish Kundu, Debasis Samanta, An Approach for Assessment of Reliability of the System Using Use Case Model, IEEE-CS Proceedings of 10th International Conference on Information Technology (ICIT), Rourkela, India, December 22-24, 2007.
45. Debasish Kundu, Debasis Samanta, A Novel Approach of Prioritizing Use Case Scenarios, IEEE-ACM Proceedings of 14th Asia-Pacific Software Engineering Conference (APSEC), Nagoya, Japan, 2007, 5-7 December, 2007.
46. S. Dey and D. Samanta, An Efficient Approach for Pupil Detection in Iris Images, IEEE-CS Proceedings of 15th International Conference on Advanced Computing & Communication, (ADCOM 2007), December 18-21, 2007. (Awarded as the Best Paper).
47. R. Maity and D. Samanta, A Novel Approach of Synthesizing Low Power VLSI Architecture, IEEE-CS Proceedings of the 15th International Conference on Advanced Computing and Communication, (ADCOM 2007), December 18-21, 2007.
48. R. Maity, M. Sarma and D. Samanta, Low Power VLSI Architecture for Efficient Motion Estimation in Video Codec Chip, Proceedings of the 2nd International Conference on Embedded Systems, Mobile Communication and Computing, ICEMC2 2007, Bangalore, August 25-27, 2007.
49. S. Dey and D. Samanta, Parameterization Technique to Evaluate the Performance of Biometric System, National Conference Technologia-2007, March 22-24, 2007, Bhubaneswar.
50. R. Maity and D. Samanta, Threshold-based Hexagonal Block Matching Algorithm for Video Coding, Proceedings of the 10th International Workshop on Advance Image Technology, IWAIT 2007, Bangkok, Thailand, January 9-10, 2007.

51. Dhiren M. Parmar, M. Sarma, D. Samanta, A Novel Approach to Domino Circuit Synthesis, IEEE Proceedings of the 20th International Conference on VLSI Design, Bangalore, India, 204-209, January 7-10, 2007.
52. Samit Bhattacharaya, Debasis Samanta, Anupam Basu, Some Issues in Modeling the Performance of Soft Keyboards with Scanning, 1st International Workshop on Formal Method of Interactive Systems (FMIS), Macau SAR, China, 123-127, Elsevier ENTCS, November 10-11, 2006.
53. Debasish Kundu, Debasis Samanta, An Improved Approach to Generating Test Cases from UML Activity Diagram, IEEE-CS Proceedings of the 18th Australian Conference on Software Engineering (ASWEC), Canberra, Australia, October 20-22, 2006.
54. Pradipta Biswas, Samit Bhattacharaya, Debasis Samanta, User Model to Design Adaptive Interface for Motor-Impaired Users, IEEE Proceedings of 10th IEEE Region 10 Conference (IEEE TENCON 2005), Melbourne Australia, 8-19 September, 2005.
55. D. Samanta, M. Sarma, and A. S. Dhar, Motion Estimation Using Multi-Resolution based on Haar Wavelet Transformation, IEEE Proceedings of IEEE TENCON 2004, Chiang Mai, Thailand, 21-23, November, 210-217, IEEE, 2004.
56. D. Samanta, and A. Pal, Synthesis of Low Power High Performance Dual-VT PTL Circuits, 17th VLSI Design Conference, 2004 VLSI Design 2004, January 2004.
57. D. Samanta, and A. Pal, Logic Styles for Low Power High Performance, International Workshop in Logic Synthesis (IWLS), Atlanta, USA, May 2003, IEEE Press.
58. D. Samanta, and A. Pal, Synthesis of High Performance Low Power PTL Circuits, ACM SIGDA Proceedings of ASP-DAC Conference, pp. 232-239, January 2003, Kitakyusyu, Japan.
59. D. Samanta, A. Pal, Synthesis of Dual-VT Dynamic CMOS Circuits, IEEE Proceedings of 16th International Conference on VLSI Design, pp. 121-128, January 2003, New Delhi, India.
60. M. Sarma, D. Samanta and A. S. Dhar, VLSI Architecture for Three Step Search Algorithm using Multi-Resolution, Proceedings of ASICON 2003, Beijing, China, October 2003.
61. D. Samanta, and Ajit Pal, Optimal Dual-VT Assignment for Low-Voltage Energy-Constrained CMOS Circuits, in IEEE/ACM Proceedings of 15th International Conference on VLSI Design and ASP DAC, pp. 193-200, January 2002, Bangalore, India.
62. D. Samanta, N. Sinha, and A. Pal, Synthesis of High Performance Low Power Dynamic CMOS Circuits, in IEEE/ACM Proceedings of 15th International Conference on VLSI Design and ASP-DAC, IEEE Press, pp. 99-107, January 2002, Bangalore, India.
63. N. Tripathi, A. Bhosle, D. Samanta, and A. Pal, Optimal Assignment of High Threshold Voltage for Synthesizing Dual Threshold CMOS Circuits, in IEEE/ACM Proceedings of 14th Int'l Conference on VLSI Design, pp. 227-234, January, 2001, Chennai, India.

## Miscellaneous Information

### A. Member of Professional Bodies

Senior Member, IEEE since 1999.  
Executive Committee Member, IEEE Kharagpur Section, 2004-2006.  
Secretary/Treasurer, IEEE Kharagpur Section, 2007.  
Vice-Chair and Students' Branch Councilor, IEEE Kharagpur Section, 2008.  
Chair, IEEE Kharagpur Section, 2009-2010.

### B. Member of Academic Committee

Member, Board of Under Graduate Studies, North East Hill University, Shillong

### C. Member of Editorial Boards

Honorary Member of editorial Board of the International Journal of BioSciences and Technology.  
Member of Editorial Board of the International Journal of Communication Networks and Distributed Systems (IJCND), Inderscience Publishers, U.K.  
Member of Editorial Board of ICFAI University Journal of Information Technology, Icfai University Press (IUP).  
Member of Advisory Board, Manipal Journal of Science and Technology, India

### D. Conference Organizing Committee Members

Students Activity Chair  
IEEE INDICON 2004, Kharagpur

Tutorial Chair  
6<sup>th</sup> International Workshop of Distributed Computing (IWDC 05), 2005, Kharagpur

Finance Chair  
3<sup>rd</sup> IEEE International Conference on Information and Industrial Systems (ICIIS 2008), 2008, Kharagpur

Technical Program Committee Member.  
IEEE Region 10 Conference (TENCON 2009), 23-26 November, 2009.

General Chair  
1<sup>st</sup> Annual IEEE Technological Symposium (TechSym 2010), 3-4 April, 2010, IIT Khargapur.

Program Chair, IHCI 2012, 27-29 December, 2012, IIT Kharagpur

Program Chair, Joint India HCI 2013 and APCHI 2013, 24-27 September, 2013, Bangalore

Steering Committee Member, IHCI 2013, 04-07 December, 2013, Australia, Canberra

Steering Committee Member, IHCI 2014, 08-10 December, 2014, Eva, France

Steering Committee Member, IHCI 2015, 12-13 December, 2015, Allahabad, India



**Debasis Samanta**

10 August, 2016