Prof. Susanta Chakraborty
Professor
Department of Computer Science & Technology
Indian Institute of Engineering Science & Technology, Shibpur

1**) Research**:

My 28 years of research experience in the area of Computer Science and Engineering is primarily focused on***Big data analysis and application, Social network analysis, Internet of Things based security Machine learning data mining, Approximate Computing/Stochastic Computing, Video & Image Processing, Gene Regulatory Network, Quantum Circuit & cryptography and Cyber Physical Micro-fluidic Bio-chip & security***.These works have been done in collaboration with the scientists working at *Advanced Computing Unit,* ***Indian Statistical Institute****,* ***University of Potsdam, Germany*****,Nara Institute of Science and Technology, Japan***and* **Professor John P.Hays, Shannon Professor of EngineeringScience,** University of Michigan, Advanced Computer Architecture Lab.

2**) Statutory position held in the academic administration of the University and Universities or Institutions served:**

a) **Former Dean of Engineering&Technology and Management faculty of Kalyani University**.

b) **FormerExecutive council member of the University of Kalyani and Bengal Engineering and Science University, Shibpur.**

c) **Served as a Head 4 times of the department of Computer Science and Engineering of Kalyani University and Head, department of computer Science and Technology, Indian Institute of Engineering Science & Technology, Shibpur**.

d) **Post Graduate Faculty Council member of the Bengal Engineering and Science University, Shibpur and University of Kalyani, Burdwan University and Central University Tripura.**

e) Former Chairman, under graduate board of studies of Computer Science of Kalyani University

f) **Research board of studies member, Burdwan University andKalyani University and IIEST, Shibpur**.

g) Member of the Industry-Institute Cell of Kalyani University.

h) Member Internal Quality Assurance Cell of Kalyani University Proposed by NAAC

3) **Courses Introduced**

I have Introduced **M.C.A**and **M.Tech**course in the Department of Computer Science and Engineering, Kalyani University. I had met to AICTE and UGC at Delhi for the affiliation of the courses and funding.

4) **Examiner of the other University**

a) **Examiner of Ph.D thesis** in Engineering of the **Jadavpur University and IITs.**

b) Examiner of Dissertation of M.Techand M.Sc. Computer& Information Science of the **Calcutta University and IITKGP**

c) Examiner of other Dissertation of B.Tech courses of the Calcutta University.

5. Number of Patents (Filed/ Awarded):1.S. Bhattacharyya, S. S. Mukherjee, P. Dutta and **S. Chakraborty**, **"Low Cost Intelligent Colorimeter Using Color LEDs", Patent No. 886/KOL/2015 dated 14.08.2015**

6.Number and Names of reputed Awards/Recognitions:

i) INVITATED FELLOWSHIP FROM GERMANY AS A GUEST SCIENTIST

I was invited from *Institute of Information Technology, **University of Potsdam, Germany with invited German Gov Fellowship and*** worked as a ***Guest scientist*** with ***Proessor. M. Gossel*** who is internationally renowned in the area of *VLSI testing and fault diagnosis* from September 2000, to 27 December, 2000 as my research work was considered of ***high International standard***. The recommendation given by him attached later on herewith.

ii) JSPS FELLOWSHIP of INDIAN NATIONAL SCIENCE ACADEMY(INSA)

Indian National Science Academy nominated me as ***a JSPS*** Scientist in the session 2003-2004 and worked with ***Professor H. Fujiwara of Nara Institute of Science and Technology,***

Japan, University of National Importance in the area of *Test Generation of Sequential Circuits and Low Power Design.*

iii) Invitation from University of Michigan, Ann Arbor, USA

I was invited from University Michigan, Advanced Computer Architecture Lab,deptt of Electrical Engineering and Computer Scienceand research worked with Professor John P. Hays, Shannon Professor of Engineering Science in the area of " Test pattern generation of Quantum circuit" and " Testable Design of Nano-Circuit.

iv) Invitation from ICTP, ITALY and ATENEO DE MANILA UNIVERSITY

I was invited to attend a *21 days workshop on Advanced VLSI Design Techniques using a Hardware Description Language*otAteneo De ManilaUniversity, Phillippinesorganised by *The Abdus Salam International Center for Theoretical Physics and School of Computer Science and Engineering, Ateneo de Manila University.*

7. Number of Ph.D. guided (completed/ in progress):

Details of PhD students Guided and Ongoing No. of students Completed: **4** No. of Students Ongoing:**7**		
PhD students already Supervised		
Sl.No.	Name of the Students	Status Awarded/Submission in year
1.	Samir Roy	**Awarded on 2002**
2.	Sourav De	**Awarded on April, 2015**
3.	PradyutSarkar	**Awarded on October 2016**
4	BikramadityaMondal	**Awarded on April, 2017**
On Going PhD Students		
Sl.No.	Name of the Students	Status Enrolled/Registered
1.	Pranay Kumar Saha	RegisteredIIEST
2.	BiswanathChakrabrty	RegisteredIIEST
3.	HrishikeshBhaumik	RegisteredIIEST
4.	TapanChoudhury	RegisteredIIEST
5.	SaritChakraborty	RegisteredIIEST
6.	Chandan Das	RegisteredIIEST
7.	SamyaMuhuri	RegisteredIIEST

8. Number of Publications (National/ International):

Around ***68 research papers*** now stand to my credit, which appeared in very reputed **International Journals including IEEE Transactions on CAD** and refereed international conference **proceedings of IEEE COMPUTER SCIENCE PRESS.** Attached annexure 1

9. Number of Books published / under publication:

Books Published

1. **S. Bhattacharyya, P.Dutta and S. Chakraborty "Hybrid Soft Computing Approaches" International Publication by Springer Germany, 2016.**
2. **S.Dey, S. Bhattacharyya, S. Chakraborty and P.Dutta "Hybrid Soft Computing for Multilevel Image and data segmentation " International Publication by Springer Germany,2017.**

Books Chapter:

1. **S. De, S. Bhattacharyya and S. Chakraborty** (eds. S. Bhattacharyya and P. Dutta), "**Multilevel Image Segmentation by a Multiobjective Genetic Algorithm Based OptiMUSIG Activation Function**", vol. 1, pp. 122 – 162, ***Handbook of Research on Computational Intelligence for Engineering, Science and Business, IGI Global, 2012.***
2. **S. De, S. Bhattacharyya and S. Chakraborty** (eds. B. K. Tripathy and D. P. Acharjya), "*Efficient Color Image Segmentation by a Parallel Optimized (ParaOptiMUSIG) activation Function*", ***Global Trends in Knowledge Representation and Computational Intelligence, IGI Global.*****2013.**
3. **S. De, S. Bhattacharyya and S. Chakraborty, (eds. S. Bhattacharyya el.) "Multilevel and Color Image Segmentation by NSGA II Based OptiMUSIG Activation Function", pp. 321 – 348, Handbook of Research on Advanced Hybrid Intelligent Techniques and Applications, IGI Global.**
4. **H. Bhaumik, S. Bhattacharyya and S. Chakraborty, "Redundancy Elimination in Video Summarization" in Image Feature Detectors Foundations, Innovations, and Applications, Springer Verlag, 2016**.
5. **H. Bhaumik**, M. Chakraborty, S. Bhattacharyya, and S. Chakraborty. "**Detection of Gradual Transition in Videos: Approaches and Applications." Intelligent Analysis of Multimedia Information**, pp. 282-318, IGI Global, 2016.
6. **H. Bhaumik, S. Bhattacharyya, and S. Chakraborty. "Content Coverage and Redundancy Removal in Video Summarization."In Intelligent Analysis of Multimedia Information, pp. 352-374. IGI Global, 2017.**

10. Number of Projects (completed/ in progress):

i)**I have obtained an R & D scheme of TITLE "*Fault Diagnosis and Core Design in***

***System on chip*" of Rs 5 lakhs from AICTE**.(Completed)

ii)**Another R/D scheme of title "*Fast Distributed Approximate Interval Cutting*" of Rs 3lakhs from AICTE.(Completed)**

iii) **Co-ordinator** of the "**Special Manpower development project of India Chip Programme**"

iv) PI of the Project " Bigdata:Machine learning, Analytics and Visualization(Proposed)

11. Number of Memberships in Societies & their names: IEEE, USA

12. Any other Information:

i) Served as a Referee for reviewing technical papers submitted to **International Conference proceedings and journals**.

ii) **Publicity Co-Chair**, 18th International Conference on VLSI Design, January, 2005.

Member of **IEEE** circuit and system, USA.

iii) **Expert** of selection Committee of Different Universities and College Service Commission.

iv)**Publicity Co-Chair, Fifteenth Asian Test Symposium**, December, India, 2005.

v) **Publicity Chair & Program Committee member of 1st IEEE International workshop on Reliability Aware System Design and Test(RASDAT)**, January, India, 2010

vi) **Expert** of selection Committee of **IIM**, Different **Universities, PSC(Gov. of W.B)**

vii)**Expert, National Board of Accreditation(NBA) since 2005.**

viii) **Publicity Chair & Program Committee member of 2nd 3rd and 4th IEEE International workshop on Reliability Aware System Design and Test(RASDAT)**, January, India, 2011 and 2012.

ix) **Advisory Committee member of International Conference on Computing and systems, November 19 – 20, 2010, 2011, 2012 2013, 2014 and 2016.**

x) **Publication Chair, IEEE WRTLT-2011 International Symposium Nov, 2011**

xi) **Program Chair, IEEE WRTLT-2015 International Symposium Nov, 2015** at **IIT Bombay**.

xii) **Program Committee member, IEEE WRTLT-2016 International Symposium Nov, 2016** at **Japan**

xiii) **Publicity Co-Chair and Program Committee Member Twenty-fifth Asian Test Symposium**, November, India, **2015**.

xiv) **Publicity Chair & Program Committee member of 4th, 5th and 6thIEEE International workshop on Reliability Aware System Design and Test (RASDAT)**, January, India**, 2013, 2014, 2015, 2016 and 2017**.

xv) **Program Committee member of 19th and 20th VLSI Design and Test Symposium (VDAT-2015 and 2016**), Ahmedabad, **IIT Guwahati**.

xvi) **Program Committee member of 21st VLSI Design and Test Symposium*(VDAT-2017)*,** IIT**Roorkee.**

xvii) Technical Committee member of the Conference on Intelligent Computing and VLSI, February, 2001.

xviii) **Convener** of Information Technology Committee of The Fourth All India Peoples Technology Congress, Science City, Kolkata.

v)Visited **Delft University, Netherlands,**

Invited Lectures

i) Delivered a invited **keynote Lecture on " Quantum Computing and Bio-Chip" in 22nd West Bengal State Science & Technology Congress** held on **28th February, 2015.**

ii) Delivered a invited **keynote Lecture on "Machine learning application in Routing and Bio-chemicalsynthesison Digital Microfluidic Biochip" and Big Data using Map Reduced based Parallel reduct Method" in the workshop on *Application of Machine Learning at NIT, Silchar,* March, 2017.**

iii) Delivered a invited **keynote Lecture on "Routing TechniqueBiochemical Synthesis on CyberphysicalDigital Microfluidic Biochip (DMFB)" in 8*th IEEE workshop on Reliability Aware System Design and Test (RASDAT), 2015*, *held with 30th*International Conference onVLSI Design*,IEEE CS Press,** Hyderabad, India, **12th January, 2017.**

iv) Invited Lecture**"Big Data analysis and application**" In a Central **University Tripura on Septamber, 2016.**

v) I was invited **Nara Institute of Science and Technology Nara, Japan** to deliver a Lecture on "**Synthesis and Redundancy of Balanced Ternary Logic Function in Quantum Circuit**." on**22nd May 2013.**

vi) Invited from department of **CSE IIT Guwahati** for delivering a Lecture on **"*Testing and Synthesis ofDigital Micro-fludic Bio-Chip*"**on 12th April **2014.**

vii) Delivered a invited **keynote Lecture on Quantum Computing and Synthesis, Fault Diagnosis and Redundancy in reversible Circuit" in *6th IEEE workshop on Reliability Aware System Design and***

Test (RASDAT), 2015*, held with Twenty-eight,* ***International Conference onVLSIDesign***,**IEEE CS Press,** Bangalore, India, **8th January, 2015.**

viii) Delivered a Lecture in the **National level Faculty Development Programme** on "Recent Trend in Research and Research Methodology" ,December,**2016** organized by **RCCIIT**, Kolkata.

ix) Invited Lecture**"Digital Micro-fludic Bio-Chip Optimization**" In a International Conference organized by**Kalyani University on 9th January, 2015.**

x) Invited as a resource person in **Refresher Course** held in**Burdwan University in 2007.**

xi) Delivered a Lecture in the **National level Faculty Development Programme** on "Recent Trend in Research and Research Methodology" from 6th January to 10th January, **2014** organized by **RCCIIT**, Kolkata.

xii) Delivered a Lecture in the **National level workshop** on "Mathematical model for Scientific and Technological Application", from 17th June to 21st June, **2013** organized by **RCCIIT, Kolkata**.

Annexure I

List of publications

Some publications of Dr. S. Chakraborty with Professor. B.B. Bhattacharya, Professor. M. Goessel and Professor H.Fujiwara

Reputed International Journals.

1. SusantaChakraborty, Debesh.K. Das and Bhargab.B.Bhattacharya "Synthesis of Symmetric Functions for path delay fault testability", ***IEEE Transactions on Computer-Added Design*** ,Vol. 19, no.9, pp.1076-1081 September, 2000.
2. SusantaChakraborty, Debesh.K. Das and Bhargab.B.Bhattacharya**,** "Logical Redundancies in irredundant combinational circuits." ***Journal of Electronic Testing: Theory and applications, (JETTA), Kluwer Academic Publishers*** vol. 4, pp.120-125, 1993.
3. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "Irredundant binate realization of unate functions", ***International Journal of Electronics,*** Vol. 25, no.1, pp.65-73 1993.
4. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "Universal and Robust Testing of stuck-open faults in Reed-Muller canonical CMOS circuits", ***International journal of Electronics*** Vol. 90, no.1, pp. 1-11, 2003.
5. SusantaChakraborty, Debesh.K. Das and Bhargab.B.Bhattacharya "Interchangeable Boolean functions and their effects on Redundancy in logic circuits", ***International journal of Computer Science***, 2003.
6. A.Dutta, S.Pal and S.Chakraborti "Image thinning by Neural Network," ***International journal of Neural Computing & Applications***, pp. 122-128 U.K, 2002.
7. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "Booleanalgebraic properties of fault behavior in logic circuits," ***Fundamental Informatica,*** **2004.**
8. SusantaChakraborty, Debesh.K. Das and Bhargab.B.Bhattacharya "Universal and Robust Testing of Stuck-open Faults in Reed-Muller canonical CMOS circuits", ***International journal of Electronics*** vol. 90,No.1,pp. 1-11, U.K 2003.
9. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "Interchangeable Boolean functions and their effects on redundancy in logic circuits ", *Proceedings of ASP-DAC, Japan,* pp. 469-474, February, **IEEE CS Press**, USA, 1998. ***Internatioal Journal of Computer Science***.

10. PradyutSarkar and Susanta Chakraborty "Universal Test Set for Bridging Fault Detection in Reversible Circuit"***International Journal of Computer Science and Engineering system***, vol. 2, 2010.
11. Sourav De , Siddhartha Bhattacharyya, SusantaChakraborty "Efficient Gray Level image segmentation using an optimized MUSIG(OptiMUSIG) activation function" ***International Journal of Parallel, Emergent and Distributed System,*** Vol.26, No.1, pp.1-39, 2010.
12. Sourav De, Siddhartha Bhattacharyya, SusantaChakraborty "Color image segmentation using parallel OptiMUSIG activation function" ***Applied Soft Computing Journal,*** vol-12, no-10, pp. 3228 – 3236, 2012.
13. BikromadittyaMondal and Susanta Chakraborty "A Comprehensive Fault Diagnosis Technique for reversible Logic Circuit" ***Electrical Engineering Journal, Elsevier,*****Vol-40, pp2259-2272,2014.**
14. Nabanita Das, SusantaChakraborty, and ParthaSarathiDasgupta " Optimized Routing and Pin-Constrained design of digital Micro-Fludic Bio-Chip" *International Journal on Information Theory(IJIT), Vol3, No1, January, 2014.*
15. HrishikeshBhaumik, Siddhartha Bhattacharyya, Mausumi Das Nath and SusantaChakraborty,"*Hybrid Soft Computing Approaches to Content based Video Retrieval: A Brief Review*" ***Journal of Applied Soft Computing***, vol-46, pp1008-1029, 2016.
16. SaritChakraborty, Chandan Das, SusantaChakraborty and Partha P Dasgupta, "*A Novel Two Phase Routing Technique in Digital Microfluidic Biochip*" Journal ***of IET Computers & Digital Techniques, U.K,*** vol-10, issue-5, pp 233-242, 2016 (Former IEE).
17. SkMazharul Islam, Minakshi Banerjee, Siddhartha Bhattacharyya, SusantaChakraborty, "Content-based image retrieval based on multiple extended fuzzy-rough framework."Journal for ***Applied Soft Computing,*** Volume 57, August 2017, Pages 102-117, 2017.
18. H. Bhaumik, S. Bhattacharyya , and S. Chakraborty "A Vague Set Approach for Shot Transition Detection in Videos Using Multiple Feature Amalgamation."***Pattern Recognition Letters***, 2017.
19. SamyaMuhuri, Susanta Chakraborty and Sabitri Nanda Chakraborty, "Extracting Social Network and Character Categorization from Bengali Literature", IEEE Transaction on Computational Social Systems. (communicated).

IEEE International Conferences

20. D. K. Das, S. Chakraborty and B. B. Bhattacharya, "Boolean algebraic properties of fault behavior in logic circuits," ***Proceedings of the 4th International Workshops on Boolean problems,*** **Germany**,pp.143-150, September, 2000.
21. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "New BIST techniques for universal and robust testing on CMOS Stuck-open faults", ***Proceedings of the 10th International Conference on VLSI Design****, pp. 303-308****, January IEEE CS Press***, 1996.

22. SusantaChakraborty, Debesh.K. Das and Bhargab.B.Bhattacharya "Universal and Robust Testing of Stuck-open Faults in Reed-Muller canonical CMOS circuits", *Proceedings 3rd International Workshop on application of the Reed-Muller Expansion in Circuit design*,Oxford University, PP. 259-268 September,1997.
23. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "Interchangeable Boolean functions and their effects on redundancy in logic circuits ", *Proceedings of ASP-DAC, Japan,* pp. 469-474, February, **IEEE CS Press**, USA, 1998.
24. SusantaChakraborty,Sandip Das, Debesh.K. Das and Bhargab.B.Bhattacharya "Synthesis of Symmetric Functions for path delay fault testability", *Proceedings of the 12th International Conference on VLSI Design*, pp. 469-474 January, **IEEE CS Press** ,USA,1999.
25. Debesh.K.Das, SusantaChakraborty and Bhargab.B.Bhattacharya "Boolean algebraic properties of fault behavior in logic circuits", *Proceedings of the 4th International Workshop on Boolean problems*, pp.143-150, September Freiberg (Germany), 2000.
26. S.Roy, S.Bandyopadhyay, U. Mallick, B.K.Sikdar and S.Chakraborty, "Graph Embedding Approach to solve the state assignment Problem of FSM Synthesis", P*roceeding of the Conference on intelligent computing and VLSI*, February, 2001.
27. M.Gossel, V.Ocheretnij and S.Chakraborty "Diagnosis by repeated application of specific test inputs and by output monitoring of the MISA", *Proceedings of the 10th**Asian Test symposium** pp.57-62, November*,**IEEE CS Press**, Japan 2001.
28. PradyutSarkar ,ArindamKarmakar and SusantaChakraborty "Fault Diagnosis by Spectral Pattern." *Proceedings of the 8th VLSI Design and Testing (VDAT),*pp .439-446, August, Mysore, 2004.
29. Debesh.K.Das, Susanta Chakraborty and Hideo Fujiwara,"Max-Testable Class of sequential circuits having Combinational test generation" *Proceedings of thirteen Asian Test Symposium*,pp.342-347,November, **IEEE CS Press**, Taiwan,2004.
30. PradyutSarkar ,Virendra Singh and SusantaChakraborty "Low power design by circuit partitioning." *Proceedingsof the International conference on computer, communication, control and Information Technology*, February, Kolkata, 2009.
31. SusantaChakraborty, BikramadityaMondal and Bhargab.B.Bhattacharya "Fault diagnosis of the reversible circuits." *Proceedings of the 11th VLSI Design and Testing (VDAT),* August, Kolkata, 2007.
32. S.De, S.Bhattachary and S.Chakraborty "A Genetic algorithm based Automatic Image Clustering Technique validated by Fuzzy Intercluster Hostility Index" *proceedings of the International Conference on Communication, Computers and Devices, (ICCCD2010),* Kharagpur, India, December 2010.
33. P.Sarkar and S.Chakraborty "Bridging fault detection of the reversible circuit." *Proceeding* of *the 3rd International Design and Test Workshop Symposium at Monastir, Tunisi, IEEE Computer Science Press*. *2008.*

34. S.De, S.Bhattacharya and S.Chakraborty "True Color Image Segmentation by anoptimized multilevel activation function."*Proceeding of the IEEE International Conference on Computational Intelligence and Computing research 2010 (ICCIC2010),*December, Coimbatore,*pp.545-548, December,* 2010.

35. S.Bhattacharya and S.Chakraborty "Determination of Optimal Threshold of a Gray level Image Using a Quantum Inspired Genetic Algorithm with Interference based on Random Map Model" *Proceeding of the computational intelligence and computing research, 2010 (ICCIC 2010),*December, Coimbatore,2010.

36. "Bridging fault detection of the reversible circuit using unitary Matrix" *Proceeding of the 2nd International conference RASDAT, 2011 on reliability aware system Design and Test.* January, Chenni, 2011.

37. Pranay Kumar Saha ,PradyutSarkar and SusantaChakraborty"Synthesis of Reversible Logic Circuit using Unitary Matrix". *Proceeding Of the 3rd Workshop on Reversible Computing July 4th -5th* ,2011, **Gent, Belgium**.

38. BiswanathChakraborty,Siddhartha Bhattacharyya and SusantaChakraborty, "A comparative study of unsupervised video shotboundary detection techniques using probalistic fuzzy entropymeasures", *in Hand Book of research on computational intelligence in engineering, science and Business, IGI Global.*

39. Sourav De, Siddhartha Battacharyya, SusantaChakraborty, BaidyaNathSarkar,PiyushK.Prabhakar "Gray Scale Image Segmentation by NSGA-II based OptiMUSIG Activation Function" *IEEE International Conference on Communication Systems and Network Technologies (CSNT2012), Rajkot, pp. 104-108, May 11-13,* 2012.

40.Sourav De, Siddhartha Battacharyya, SusantaChakraborty, "Color Image Segmentation by NSGA-II based Parallel OptiMUSIG (ParaOptiMUSIG) Activation Function". *International Conference on Machine Intelligence Research and Advancement (ICMIRA-2013),* 2013.

41.B.Mondal, P.Saha, P.Sarkar and S. Chakraborty " Synthesis of Balanced Ternary Logic Function" Proceeding of ***43rd IEEE International Symposiumon Multivalued Logic(ISMVL), Toyoma***, Japan, 2013.

42.Subhadip Chandra, Siddartha Bhattacharya and Susanta Chakraborty "A Quantam inspired time efficient 0ptiMUSIG activation function for multilevel image segmentation." ***IEEE INDICON (IIT), Bombay, Mumbai, India,* 2013**.

43. Somak Das, SusantaChakraborty "Structural Testing of Partitioned Digital Microfluidic Biochips" *IEEE International Conference on VLSI & Signal Processing, IIT Kharagpur; January*, 2014.

44. **Hrishikesh Bhaumik, Siddhartha Bhattacharyya, and**Susanta Chakraborty "Video Shot Segmentation Using Spatio-Temporal Fuzzy Hostility Index and Automatic Threshold". *IEEE* ***International Conference on Communication Systems and Network Technologies (CSNT),*** Pages 501-506, April, 2014.

45. **Hrishikesh Bhaumik, Siddhartha Bhattacharyya, and**Susanta Chakraborty : "An unsupervised method for real time video shot segmentation". *Fourth International Conference on Digital Image Processing and Pattern Recognition (DPPR),* Pages 307-318, ACM May, 2014.

46. BikromadittyaMondal and Susanta Chakraborty "A Noval Fault DiagnosisTechnique in Reversible Logic Circuit" ***11th IEEE International Conferenceon Embedded Software and Systems*** **(ICESS) Paris**, August, 2014.

47. S. De, S. Bhattacharyya and S. Chakraborty, "Application of Pixel Intensity Based Medical Image Segmentation Using NSGA II Based OptiMUSIG Activation Function," *The International Conference on Computational Intelligenceand Communication Networks (ICCICN 2014),pp.262-267, 2014*.

48. S. De, S. Bhattacharyya and S. Chakraborty, "Automatic Data Clustering by Genetic Algorithm Validated by Fuzzy Intercluster Hostility Index," *FourthInternational Conference of Emerging Applications of Information Technology (EAIT 2014), pp. 58-63, December,* 2014.

49. **Hrishikesh Bhaumik, Siddhartha Bhattacharyya, and**Susanta Chakraborty "Towards Redundancy Reduction in Storyboard Representation for Static Video Summarization." *In* Proc. of *IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI, 2014), pp. 344-350., September,* 2014.

50. Pradyut Sarkar, Bikromadittya Mondal, Amit Pramanik and Susanta Chakraborty, "Symmetric Function Realization using Reversible Circuit Synthesis"34th IEEE **TENCON-2014**, Bangkok, Thailand. October, 2014.

51. PradyutSarkar, BikromadittyaMondal, SusantaChakraborty and Virendra Singh, "Power optimization Technique of Logic Circuit Based on Distribution of Energy"***IEEE INDICON, Pune****, India,* December, 2014.

52. TapanChowdhury, Sanjit Kumar Setua, SusantaChakraborty "A Novel Rules Optimizer with Feature Selection using Rough-Entropy-Coverage Partitioning based Reduct". *3rd International Conference onComputer, Communication, Control and Information Technology (C3IT), India,* February, 2015.

53. **HrishikeshBhaumik, Siddhartha Bhattacharyya, and**SusantaChakraborty, "Enhancement of Perceptual Quality in Static Video Summarization Using Minimal Spanning Tree Approach" In Proc. of *IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems* (IEEE SPICES 2014), *pp. 226-232*,February, 2015.

54. Hrishikesh Bhaumik, Siddhartha Bhattacharyya, Mausumi Das Nath and Susanta Chakraborty "Real-Time Storyboard Generation in Videos Using a Probability Distribution based Threshold"In Proc. of *Fifth IEEE International Conference on Communication Systems and Network Technologies (CSNT)*, pp. 425-431., April , 2015.

55. BiswanathChakraborty, Siddhartha Bhattacharyya, SusantaChakraborty, "An Unsupervised Approach to Video Shot Boundary Detection Using Fuzzy Membership Correlation Measure", *2015 Fifth International Conference on Communication Systems and Network Technologies*, pp. 1136-1141, 2015.

56. SaritChakraborty, Chandan Das, SusantaChakraborty and Partha P Dasgupta "A Novel Two Phase Heuristic Routing Technique in Digital Microfluidic Biochip" *Proceedings of the 19th International symposium on VLSI Design and Test (VDAT),*pp., Ahmedabad, June, 2015.

57. HrishikeshBhaumik, Siddhartha Bhattacharyya, ManideepaChakraborty and Susanta Chakraborty "Dissolve Detection in Videos Using an Ensemble Approach" "Dissolve Detection in Videos Using an Ensemble Approach," *In Proceedings of Fourth IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI 2015)* pp. 1461-1467, August, 2015.

58. BikromadittyaMondal, PradyutSarkar, and SusantaChakraborty"A Improved synthesis of reversible Circuit" *Proceedings of the 24th Asian Test symposium and 16th IEEE workshopon RTL and High level Testing, pp.57-62, November*,**IEEE CS Press**, IIT, Bombay, 2015.

59. DebajyotiBera, SubhamoyMaitra, SparsaRoychowdhury, SusantaChakraborty,"Diagnosis of single faults in quantum circuits", arXiv:1512.05051 [quant-ph], 16 Dec 2015.

60. SaritChakraborty, Chandan Das, SusantaChakraborty"A Novel mixing Technique for low cost sample preparation in Digital Microfluidic Biochip" *Proceeding of the 7thInternational conference on Reliability Aware System Design and Test.* (*RASDAT)* January, Kolkata, 2016

61. BikromadittyaMondal, PradyutSarkar, and SusantaChakraborty"A Novel Design of reversibleCrypographicCircuit"*Proceeding of the 7thInternational conference on Reliability Aware System Design and Test.* (*RASDAT)* January, Kolkata, 2016.

62. H. Bhaumik, S. Bhattacharyya and S. Chakraborty, "Redundancy Elimination in Video Summarization" in Image Feature Detectors Foundations, Innovations, and Applications, pp. 173-202, Springer Verlag, 2016.

63. BikromadittyaMondal ,andSusantaChakraborty "An Efficient Reversible Cryptographic Circuit Design" *20th VLSI Design and Test Symposium (VDAT-2016),* IIT Guwahati, May, 2016.

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