

BRIEF CURRICULUM VITAE OF Dr. SRABAN KUMAR MOHANTY

Name: Sraban Kumar Mohanty

Present Position: Assistant Professor, Computer science and engineering, PDPM Indian Institute of Information Technology, Design, and Manufacturing Jabalpur, Madhya Pradesh, India

Address: CSE Discipline, PDPM IIITDM Jabalpur, Dumna Airport Road, P.O.: Khamaria, Jabalpur-482005, Madhya Pradesh, India

Email: sraban@gmail.com and sraban@iiitdmj.ac.in

Phone: +91- 9425807609(Mobile) and +91-076-2794224

Web: <https://scholar.google.co.in/citations?user=inLb-1YAAAAJ&hl=en>

Details of Professional Training and Research Experience

- Research during my thesis
 - I/O Efficient Algorithms for matrix computation, PhD thesis, IIT Guwahati, 2003-2010
 - Fast Implementation of ElGamal Cryptosystem, MTech thesis, Institute of Mathematical Sciences Chennai, 2003
- Teaching / Research Experience: 12 years
 - Teaching: Courses taught
Data clustering, Data structures and algorithms, Design and Analysis of Algorithms, Cryptography and network security, Language theory, Operating systems, Fundamentals of computing, Compiler Designing
 - Research Interests
Unsupervised Machine Learning, Graph theoretic Clustering, Very large matrix computations, Security issues in cloud computing
 - Ph.D. Supervision: 3 completed and 4 ongoing
MTech thesis Supervision: 14 Completed

Details of Employment

- Assistant Professor in CSE department, Indian Institute of Information Technology Design and Manufacturing Jabalpur, India since July 2011
- Assistant professor in the school of Computer engineering, KIIT University, Bhubaneswar, India from February 2011 to June 2011
- Senior research fellow under the supervision of Prof. Sukumar Nandi at IIT Guwahati, India from May 2010 to October 2010
- Indian Institute of Technology Guwahati Fellowship (Junior Research Fellow and Senior Research Fellow) for Ph.D programme at the Indian Institute of Technology Guwahati, Guwahati, India from 2003 to 2010

Academic Qualifications

1. Ph.D.(Computer Science and Engineering), 2010, Indian Institute of Technology Guwahati (IIT Guwahati):
2. M.Tech (Computer Science), 2003, School of Mathematics, Statistics, Computer Science, Utkal University Bhubaneswar, Odisha, India
3. M.Sc. (Mathematics), 2001, Utkal University Bhubaneswar, Odisha, India
4. B.Sc. (Mathematics), 1998, Utkal University Bhubaneswar, Odisha, India

Administrative Experience

- Coordinator Computer Center, PDPM IIITDM JABALPUR, September 01, 2014- November 30, 2017
- Head IT cell, PDPM IIITDM JABALPUR, Jan 2016- November 30, 2017
- Warden, Hall of residency, PDPM IIITDM JABALPUR, Nov 2012-June 2016 and December 2021- January 2023

Sponsored Research projects:

- PI of “Study and development of Information Entropy-based distance measures for Categorical and Continuous Data in a Metric Space for Clustering”, Science and Engineering Research Board (SERB) under MATRICS scheme, Govt. of India, Jan 2023-Jan 2026
- PI of “Investigation of power of Deep Neural Networks against various adversarial attacks and their applications to Cybersecurity” under the India-Japan Cooperative Science Programme (IJSCP), Ministry of Science and Technology, Govt. of India, Jan 2023- Jan 2025 (Japanese PI: Prof. Kauchi Sakurai, Fukuoka University, Japan)
- Co-PI of "3D-Mesh Model Steganography and Secure Communication in a Cloud Manufacturing Environment", under the India-Japan Cooperative Science Programme (IJSCP)Ministry of Science and Technology, Govt. of India, 2021-2023
- Co-PI of FPGA prototype of non-recursive key based cryptosystem for secure transmission of real time privacy signal, DST/ICPS, Govt. of India, 2018-2021
- Designing of a Portable, User Friendly and Low-cost Pulse Magnetic Field Generating Sleep Inducer for Insomnia Patients, Design and Innovation center, MHRD Govt. of India at PDPM IIITDM Jabalpur (PI)
- PI: Design of an Eigen Solver for Very Large Matrices, funded by IIITDM Jabalpur, Cost-2 Lakhs, Duration: 2016-2018
- Co-PI: Startup India center, funded by DST and MHRD, Cost: 150 Lakhs, 2016-2019

Publications

1. Rashmi Maheshwari, Sraban Kumar Mohanty, Amaresh Chandra Mishra, “DCSNE: Density-based Clustering using Graph Shared Neighbors and Entropy”, Pattern Recognition, Volume 137, pp-109341, 2023, (<https://doi.org/10.1016/j.patcog.2023.109341>).

2. Rashmi Maheshwari, Amaresh Chandra Mishra, Sraban Kumar Mohanty, An entropy-based density peak clustering for numerical gene expression datasets, *Applied Soft Computing*, Volume 142, pp-110321, 2023 (<https://doi.org/10.1016/j.asoc.2023.110321>)
3. Madhuri Gokhale, Sraban Kumar Mohanty, Aparajita Ojha, "GeneViT: Gene vision transformer with Improved DeepInsight for cancer classification", *Computers in Biology and Medicine*, Volume 155, pages 106643, 2023, (<https://doi.org/10.1016/j.compbiomed.2023.106643>)
4. Amit Kumar Kar, Amaresh Chandra Mishra, Sraban Kumar Mohanty, "An Efficient Entropy based Dissimilarity Measure to Cluster Categorical Data", *Engineering Applications of Artificial Intelligence*, Volume 119, pp-105795, 2023 (<https://doi.org/10.1016/j.engappai.2022.105795>)
5. Abdul Atif Khan, Sraban Kumar Mohanty, "A fast spectral clustering technique using MST based proximity graph for diversified datasets", *Information Sciences*, Volume 609, Pp 1113-1131, 2022 (<https://doi.org/10.1016/j.ins.2022.07.101>.)
6. Madhuri Gokhale, Sraban Kumar Mohanty, Aparajita Ojha, "A stacked autoencoder based gene selection and cancer classification framework", *Biomedical Signal Processing and Control*, Volume 78, Pp-103999, 2022 (<https://doi.org/10.1016/j.bspc.2022.103999>).
7. I. Meraouche, S. Dutta, S. K. Mohanty, I. Agudo and K. Sakurai, "Learning Multi-Party Adversarial Encryption and Its Application to Secret Sharing," in *IEEE Access*, vol. 10, pp. 121329-121339, 2022 (doi: 10.1109/ACCESS.2022.3223430.)
8. Gaurav Mishra, Amit Kumar Kar, Amaresh Chandra Mishra, Sraban Kumar Mohanty, M.K. Panda, "SEND: A novel dissimilarity metric using ensemble properties of the feature space for clustering numerical data", *Information Sciences*, Vol 574, Pp 279-296, 2021, (DOI: <https://doi.org/10.1016/j.ins.2021.05.059>.)
9. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, "Gene expression clustering using local neighborhood-based similarity measures", *Computers & Electrical Engineering*, Vol-91, pp-107032, 2021 (<https://doi.org/10.1016/j.compeleceng.2021.107032>)
10. Gaurav Mishra, Sraban Kumar Mohanty, "RDMN: A relative density measure based on MST neighborhood for clustering multi-scale datasets", *IEEE Transactions on Knowledge and Data Engineering*, Vol-34 (1), pp-419-432, 2022 (doi: 10.1109/TKDE.2020.2982400)
11. Gaurav Mishra, Sraban Kumar Mohanty, "Efficient Construction of an Approximate Similarity Graph for Minimum Spanning Tree based Clustering", *Applied Soft Computing*, Vol.97(B), pp-106676, 2020 (<https://doi.org/10.1016/j.asoc.2020.106676>)

12. Gaurav Mishra, Sraban Kumar Mohanty, “A minimum spanning tree based partitioning and merging technique for clustering heterogeneous data sets”, *Journal of Intelligent Information Systems*, Vol.55 (3), pp-587–606, 2020 (<https://doi.org/10.1007/s10844-020-00602-z>)
13. Gaurav Mishra, Sraban Kumar Mohanty, “A fast hybrid clustering technique based on local nearest neighbor using minimum spanning tree”, *Expert Systems with Applications*, Vol. 132, Pages 28-43, 2019 (<https://doi.org/10.1016/j.eswa.2019.04.048>)
14. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, “DK-means: a deterministic K-means clustering algorithm for gene expression analysis” *Pattern Analysis and Applications*, Volume 22 (2), pp 649–667, 2019
15. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, “Fast approximate minimum spanning tree based clustering algorithm” *Neurocomputing*, Volume 272, Pages 542-557, 2018
16. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, “Functional grouping of similar genes using eigenanalysis on minimum spanning tree based neighborhood graph”, *Computers in Biology and Medicine* ,71(C), 2016, pp135-148
17. Sraban Kumar Mohanty and G. Sajith, "An Input/Output Efficient Algorithm for Hessenberg Reduction", *International Journal of Foundations of Computer Science*, Vol. 30, No. 8, pp 1279-1300, 2019 (<https://doi.org/10.1142/S0129054119500266>)
18. Rohit Ahuja, Sraban Kumar Mohanty, “A Scalable Attribute-Based Access Control Scheme with Flexible Delegation cum Sharing of Access Privileges for Cloud Storage” *IEEE Transactions on Cloud Computing*, vol. 8, no. 1, pp. 32-44, 2020. (10.1109/TCC.2017.2751471)
19. Rohit Ahuja, Sraban Kumar Mohanty, Kouichi Sakurai, “A scalable attribute-set-based access control with both sharing and full-fledged delegation of access privileges in cloud computing”, *Computers & Electrical Engineering*, 57, 2017, Pp241–256. (<https://doi.org/10.1016/j.compeleceng.2016.11.028>)
20. Satyajit Mondal, Sraban Kumar Mohanty, Sukumar Nandi, “Energy Efficient Secure Communication Architecture for Wireless Sensor Network”, *Security and Communication Networks*, 9 (16), 2016 ,pp3314–3323.
21. M. K. Panda, R. Singh, Amaresh Chandra Mishra, and Sraban Kumar Mohanty, Effects of both diffuse and collimated incident radiation on phototactic bioconvection, *Physics of Fluids* 28(12), 124104 (2016)
22. Pandey S., Samal M., Sraban Kumar Mohanty, “A SNN-DBSCAN based Clustering Algorithm for Big Data”, In 3rd International Conference on Advanced Computing and Intelligent Engineering (ICACIE 2018), Bhubaneswar, December 22-24, 2018, Advanced

- Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 1082. Springer, Singapore
23. Pankaj Kumar Y., Pandey S., Samal M., Sraban Kumar Mohanty “Nearest Neighbor-Based Clustering Algorithm for Large Data Sets” International Conference on Computer, Communication and Computational Sciences (IC4S- 2017), Phuket, Thailand, October 11-12, 2017, In: Bhatia S., Tiwari S., Mishra K., Trivedi M. (eds) Advances in Computer Communication and Computational Sciences, Advances in Intelligent Systems and Computing, Volume 760, pp 73-84, 2018
 24. Rohit Ahuja, Sraban Kumar Mohanty and Kouichi Sakurai, “A Traceable Signcryption Scheme for Secure Sharing of Data in Cloud Storage”, 6th IEEE International Symposium on Cloud and Service Computing (IEEE SC2), Nadi, Fiji, December 7-10, 2016.
 25. Rohit Ahuja, Sraban Kumar Mohanty and Kouichi Sakurai, “An Identity Preserving Access Control Scheme with Flexible System Privilege Revocation in Cloud Computing”, 11th Asia Joint Conference on Information Security (AsiaJCIS 2016), Fukuoka, Japan. August 4-5, 2016, pp.39-47.
 26. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, “Fast Minimum Spanning Tree Based Clustering Algorithms on Local Neighborhood Graph”, 10th international workshop on Graph-Based Representations in Pattern Recognition (GbrPR 2015), Beijing, China, Lecture Notes in Computer Science, Vol-9069, pp.292-301
 27. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, “On Careful Selection of Initial Centers for K-means Algorithm”, International Conference on Advanced Computing, Networking and Informatics (ICACNI 2015), KIIT University, Odisha, India, Springer Smart Innovation, Systems and Technologies, Vol 43, pp. 435-445
 28. R. Jothi, Sraban Kumar Mohanty, and A. Ojha, “On the impact of post-clustering phase in multiway spectral partitioning”, International Conference on Mining Intelligence and Knowledge Exploration (MIKE 2015), IIIT Hyderabad, India, Springer Lecture Notes in Artificial Intelligence, vol. 9468, pp.161-169
 29. Sraban Kumar Mohanty and G. Sajith, "Out-of-Core Tridiagonal Reduction", 19th IEEE International Conference on Advanced Computing and Communications (ADCOM 2013), Chennai, India, October 21-25, 2013, pp. 1-6
 30. Sraban Kumar Mohanty and G. Sajith, "I/O efficient QR and QZ algorithms", 19th IEEE International Conference on High-Performance Computing (HiPC 2012), December 18-22, 2012, pp. 1-9.

31. Sraban Kumar Mohanty and G. Sajith, "I/O Efficient Algorithms for Block Hessenberg Reduction Using Panel Approach", International Conference on Big Data Analytics (BDA 2012), New Delhi, India, December 24-26, 2012, Lecture Notes in Computer Science, vol-7678, pp. 134-147
32. Sraban Kumar Mohanty and G. Sajith, "I/O Efficient Algorithms for QR Decomposition", international conference on mathematical Sciences (ICM 2012), UAE University, UAE.
33. Sunny Kumar Gupta, Mohona Ghosh, and Sraban Kumar Mohanty, "Cryptanalysis of Kalyna Block Cipher Using Impossible Differential Technique", Proceedings of the Sixth International Conference on Mathematics and Computing (ICMC 2020), Advances in Intelligent Systems and Computing, vol 1262, pp-125-141, 2021
34. Mishra G., Kumar S., Gupta R., Mohanty S.K. (2020) An Efficient Graph Based Trust-Aware Recommendation System. In: Machine Learning, Image Processing, Network Security and Data Sciences. MIND 2020, Communications in Computer and Information Science, vol 1240, pp 29-42, 2020, Springer, Singapore.

Conferences / Workshops Organized (Selected)

- Coordinator (with Prof. Aparajita Ojha) of GIAN Course on "Artificial Intelligence: Logic, Planning and Learning for Controller" during 22-03-2022 to 02-04-2022 at IIITDM Jabalpur.
- Coordinator (with Dr. P. Khanna) of Design workshop (DeW 2019) on "Security and Privacy of Cyber-Physical Systems" during March 08-10, 2019 at IIITDM Jabalpur
- Coordinator (with Dr. P. Khanna) of GIAN Course on "Data Mining Algorithms for Graph, Text, and Streaming Data" during December 19-27, 2017 at IIITDM Jabalpur
- Coordinators: Advanced Data Mining Algorithms and their Scalability for Big Data, January 02-07, 2017 under Electronics and ICT academy, PDPM IIITDM Jabalpur
- Coordinators: Basic Data Mining Algorithms and their Scalability for Big Data, August 16-21, 2016 under Electronics and ICT academy, PDPM IIITDM Jabalpur
- Coordinators: Data Structure and Algorithm using C, September 19-26, 2015 under Electronics and ICT academy, PDPM IIITDM Jabalpur
- Coordinator: 14th National Workshop on Cryptology 2014 (under the aegis of Cryptology Research Society of India), 25-27 September 2014, PDPM IIITDM Jabalpur (Link: nwc.iiitdmj.ac.in)
- General Co-chair: 16th International Conference of International Academy of Physical Sciences on Physical sciences and Technology for Sustainable Development (CONIAPS-XVI), March 20-22, 2014, PDPM IIITDM Jabalpur (Link: coniaps.iiitdmj.ac.in)
- Coordinator: Introduction to Graph and Geometric Algorithms, November 1-3, 2012, PDPM IIITDM Jabalpur. (Link: http://www.tcs.tifr.res.in/~workshop/iiitdmj_igga/)

Other Accomplishments (Academic)

- Session chair of Cyber Security and Social Network Analysis track in the Machine vision and Augmented Intelligence conference, MAI 2021 during February 11-14, 2021
- Session chair of Data Science and Big Data track in the Machine Learning, Image Processing, Network Security and Data Sciences. MIND 2020 during July 30-31, 2020
- Visited Sakurai Security Research lab, Kyushu university, Fukuoka, Japan on invitation to collaborate research work during December 03-15, 2017
- Co-PI of the member of Startup India centre at Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, India
- Track chair of Sequential, Parallel, Distributed and Cloud Computing (PDC) in the 16th International Conference on Information Technology, Bhubaneswar, India during December 21-23, 2017
- Senior Member of IEEE
- Member of ACM
- Life member of Indian Science Congress
- Council of Scientific and Industrial Research Senior Research Fellowship awarded in the year 2007
- Qualified GATE in CSE in 2003
- Received Junior research fellowship from IIT Guwahati from 2003 to 2005
- Received Senior research fellowship from IIT Guwahati from 2005 to 2007

Conferences/Workshops Attended

- Participated in Microsoft Research (MSR) Academic Research Summit 2017, January 24-25, 2017, Bangalore, India.
- Participated in “3rd International Conference on Advanced Computing, Networking, and Informatics”, Bhubaneswar, India, 2015
- Participated in “Big Data Analytics (BDA 2012) conference” at New Delhi, India, 2012
- Participated in “19th IEEE annual conference on High Performance Computing (HiPC 2012)” at Pune, India, 2012
- Participated in “Bangalore Theory Day” at *Microsoft Research India* 2008.
- Participated in “15th international Conference on Advanced Computing & Communication” at IIT Guwahati, 2007
- Participated in “8th International Conference on Distributed Computing and Networking” at IIT Guwahati, 2006

PERSONAL DETAILS:

Date of Birth:	5 th July 1977
Father’s Name:	Balaram Mohanty
Sex:	Male
Nationality:	Indian
Languages known:	English, Hindi, Odia
Mother tongue:	Odia
Marital Status:	Married

I hereby declare that the information furnished as above is true to the best of my knowledge and belief.

Sraban Kumar Mohanty