

**Name:** Dr. Joy Lal Sarkar  
**Designation:** Assistant Professor  
**Branch:** Computer Science and Engineering



**Educational Qualification(s):**

Qualification(s)	University
B.Sc Physics(Hons)	Tripura University (A Central University)
Master of Computer Application (MCA)	Tripura University (A Central University)
Master of Technology (CSE)	Biju Patnaik University of Technology (BPUT), Odisha
Ph.D (CSE)	Tripura University (A Central University)
Post Doctoral Research	National Taipei University of Business, TAIWAN

**Experience in years:5.5 Years**

Academic:

Details:

Sl. No.	Organization	Position Held	Duration	
			From	To
1	Techno College of Engineering Agartala, Tripura	Associate Professor and Head, Department of CSE	9/1/2023	2/7/2024
2	Amrita Vishwa Vidyapeetham Amravati, India	Assiatant Professor, Department of CSE	22/6/2022	5/1/2023
3	ARS College of Engineering, Chennai	Assiatant Professor, Department of CSE	08/08/2016	28/09/2018
4	International Institute of Rehabilitation Sciences and	Lecturer	22/07/2013	23/07/2014

## **Other Information:**

a) Publication details.

### **Year-2024**

1. J.L Sarkar et. al. A Visual-Usability and Privacy-Enhanced Thumbnail Preserving EncryptionScheme of Cloud Computing for Consumers, IEEE Transactions on Consumer Electronics, (Impact Factor: 4.3)
2. Biswas et al. Event-Triggered Sliding Mode Controller for Cognitive Internet of Things, IEEETransactions on Network and Service Management, (Revision Impact Factor: 5.3)
3. Joy Lal Sarkar, Sheng-Lung Peng SAHA: An SDN Enabled Fog Architecture for HealthcareApplications, 25th International Conference on Distributed Computing and Networking,IISC Bangalore (Tier-1 Conference)
4. Purba Pal, Sharmila Ghosh, Priyanka Biswas, Nirmalya Kar, Joy Lal Sarkar, Secured DigitalWatermarking Using Neural Networks,Multimedia Watermarking: Latest Developments and Trends.

### **Year-2023**

1. Sarkar, Joy; V, Ramasamy; Majumder, Abhishek ; Pati, Bibudhendu; Panigrahi, Chhabi; Wang,Weizheng. (2022), i-Health: SDN-based Fog Architecture for IIoT Applications in Healthcare.IEEE/ACM Transactions on Computational Biology and Bioinformatics, Impact Factor:4.50.
2. JL Sarkar, SK Cowlessur, V Ramasamy, B Pati, TM Selvi, CR Panigrahi, FogCom: SDN-enabled fog node selection for early detection of communicable diseases, Journal of King SaudUniversity-Computer and Information Sciences, 35 (6), 101432 (Impact Factor: 6.9).
3. JL Sarkar, A Majumder, CR Panigrahi, S Roy, B Pati, Tourism recommendation system: A survey and future research directions, Multimedia Tools and Applications 82 (6), 8983-9027 (Impact Factor: 3.6)
4. A Majumder, K Chowdhury, JL Sarkar, Taxonomy of Shilling Attack Detection Techniques in Recommender System Machine Learning Algorithms and Applications in Engineering, 141-160.

### **Year-2022**

1. Sarkar, J L., Majumder, A. (2022). gTour: Multiple Itinerary Recommendation Engine for Groupof Tourists, Expert Systems With Applications, 191, 116190 (Indexed by SCIE), ImpactFactor: 8.9, Elsevier.

2. Sarkar, J L., Majumder, A., Ramasamy V, Panigrahi, C. R. and Roy, S.. MERIT: Multi-Itinerary Tourist Recommendation Engine for Industrial Internet of Things, IEEE International Conference on Computer Communications (IEEE INFOCOM workshop) , (Tier I Conference (A+)).

#### **Year-2021**

1. Sarkar, J L., Majumder, A. (2021). A new point-of-interest approach based on multi-itinerary recommendation engine, Expert Systems With Applications, 181: 115026, (Indexed by SCIE) Impact Factor: 8.9, Elsevier.

2. Panigrahi, C.R., Sarkar, J L., Pati, B., Buyya, R., Mohapatra, P. and Majumder, A. (2021), Mobile Cloud Computing and Wireless Sensor Networks: A review, integration architecture, and future directions. IET Network, 10: 141-161. <https://doi.org/10.1049/ntw2.12013>

3. Ramasamy, V, Gomathy, B, J.L. Sarkar, Majumder, A, & Panigrahi, CR, "SensMask: An 4/12 Intelligent Mask for Assisting Patients During COVID-19 Emergencies", Computacion y Sistemas, (Accepted) (Indexed by Scopus).

4. K. Chowdhury, A. Majumder, J.L. Sarkar, S. Chakraborty, S. Roy, "Ward\_p\_HMM : A Shilling Attack Detection Technique Using Ward\_p Method and Hidden Markov Model", Computacion y Sistemas, 25(3), 2021 (Indexed by Scopus).

5. Ramasamy, V, Gomathy, B, J.L. Sarkar, Panigrahi, CR, Pati, B, & Majumder, A, "DCQSH: Dynamic conflict-free query scheduling in heterogeneous networks during emergency", Computacion y Sistemas (CyS), vol. 25, no. 1, 2021, pp. 117-128, (Indexed by Scopus).

6. Sarkar, J L., Majumder, A. MultiCity: A Personalized Multi-Itinerary City Recommendation Engine, International Conference on Computational Intelligence and Data Analytics (ICCIDA) (Accepted).

7. Sarkar, J L., Majumder, A., C. R. Panigrahi, Ramasamy V, and R. Mall (2021). TRIPTOUR: A Multi-itinerary Tourist Recommendation Engine Based on POI Visits Interval, 12th International Conference on Computing, Communication and Networking Technologies (ICCCNT-2021), IIT Kharagpur, IEEE, pp.1-7.

8. S. Sharma, A. K. Saha, J. L. Sarkar, CR Panigrahi "hBOSOS: An Ensemble of Butterfly Optimization Algorithm and Symbiosis Organisms Search for Global Optimization, Progress in Advanced Computing and Intelligent Engineering, Springer (Best Paper Award).

#### **Year-2020**

1. J.L. Sarkar, A. Majumder, C.R. Panigrahi & S. Roy, (2020). MULTITOUR: A multiple itinerary tourists recommendation engine. Electronic Commerce Research and Applications. DOI:40.100943. 10.1016/j.elerap.2020.100943, (Indexed by SCIE), Impact Factor: 6.014.

2. J.L. Sarkar , C.R. Panigrahi , B Pati , A. K Saha, A. Majumder. "MAAS: A mobile cloud assisted architecture for handling emergency situations". International Journal of Communication Systems (Wiley) ;e3950. <https://doi.org/10.1002/dac.3950>, 2020 (Indexed by SCIE), ImpactFactor: 2.047.
3. V Ramasamy, B Gomathi , J.L. Sarkar , C.R. Panigrahi , B Pati , A. Majumder "EM C2 : An Emergency Management System Using Mobile Cloud Computing", IET Networks, 2020., (Indexed by SCOPUS).
4. Verma, R.K., Panigrahi, C.R., Pati, B., Sarkar, J.L. (2020). An Efficient Approach for Running Multimedia Applications Using Mobile Cloud Computing. In: Pati, B., Panigrahi, C., Buyya, R., Li, KC. (eds) Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 1089. Springer, Singapore.

#### **Year-2019**

1. C.R. Panigrahi, J.L. Sarkar, M. Tiwary et al. "DATALET : An approach to manage big volume of data in cyber foraged environment", Journal of Parallel and Distributed Computing (Elsevier), <https://doi.org/10.1016/j.jpdc.2019.04.005>. 2019, (Indexed by SCI), Impact Factor: 3.734.
2. R.K. Verma, J.L. Sarkar, C. R. Panigrahi, , and B. Pati, "mMedia: An Efficient Transmission Policy for Multimedia Applications Using Mobile Cloud Computing", International Journal of Sensors, Wireless Communications and Control , (Indexed by Elsevier SCOPUS), Vol. 8, No. 3, pp. 1-11, 2018.
3. M. Rath, J.L. Sarkar , C. R. Panigrahi , B. Pati, "QTM : A QoS Task Monitoring System for 5/12 Mobile Adhoc Networks", Springer, In Proc. of 4th International Conference on Advanced Computing, Networking and Informatics (ICACNI-2017), NIT Goa, (Accepted).
4. S.K Giri, CR Panigrahi, B Pati, J.L. Sarkar, "A Novel Approach to Minimize Energy Consumption in Cloud Using Task Consolidation Mechanism", Progress in Advanced Computing and Intelligent Engineering, Springer, Central University of Rajasthan, pp. 123-129.
5. R.K Verma, C. R. Panigrahi, B. Pati, J. L. Sarkar, A. Majumder, "A Mobile Cloudlet Assisted Architecture for Handling Multimedia Applications", Computacion y Sistemas (CyS), (Indexed by SCOPUS), 2019 (Accepted).
6. S.K Giri, CR Panigrahi, B Pati, J.L. Sarkar, "A Novel Approach to Minimize Energy Consumption in Cloud Using Task Consolidation Mechanism", Progress in Advanced Computing and Intelligent Engineering, Springer, Central University of Rajasthan, pp. 123-129.
7. P. K. Singh, R.K Verma, J.L. Sarkar, "MCC and Big Data Integration for Various Technological Frameworks", International Conference on Advanced Computing and Intelligent Engineering (ICACIE-2017), Springer (Accepted) (Best Springer Paper Award)

### **Year-2018**

1. B. Pati, J.L. Sarkar, C. R. Panigrahi "Transmission in Mobile Cloudlet Systems with IntermittentConnectivity in Emergency Areas", Digital Communications and Networks (Elsevier), Vol. 4,No. 1, pp. 69-75, 2018 (Indexed by SCI Expanded), Source Normalized Impact Per Paper:6.797.
2. B. Pati, C. R. Panigrahi, and J.L. Sarkar, "CETM: A Conflict-free Energy Efficient TransmissionPolicy in Mobile Cloud Computing", International Journal of Communication Networksand Distributed Systems (Inderscience), DOI: <https://doi.org/10.1504/IJCNDS.2018.089763>,2016 (Indexed by Elsevier SCOPUS), Impact Factor: 0.86.
3. S. Samal, M. R. Minshra, C.R.Panigrahi, B. Pati, J.L. Sarkar, "A Novel Approach to Avoid Selfish Nodes during the Allocation of Data item in Manet", International Conference on Advanced Computing and Intelligent Engineering (ICACIE-2016), Springer, C.V. Raman College of Engineering (Autonomous), Bhubaneswar, Dec. 21-23, 2016 (Accepted).
4. J.L. Sarkar, C. R. Panigrahi, B. Pati, S. Debbarma, and R. Trivedi, "E2G: A Game Theory BasedEnergy Efficient Transmission Policy in Mobile Cloud Computing", International Conference onAdvanced Computing and Intelligent Engineering (ICACIE-2016), Springer, C.V. RamanCollege of Engineering (Autonomous), Bhubaneswar, Dec. 21-23, 2016 (Accepted).

### **Year-2017**

1. M. Rath, B. Pati, B.K. Pattanayak, C.R. Panigrahi, J.L. Sarkar, "Load Balanced Routing Schemefor MANETs With Power and Delay Optimization", International Journal of CommunicationNetworks and Distributed Systems (Inderscience), ISSN:1754-3924 (Accepted), (Indexed byElsevier SCOPUS), Impact Factor: 0.86.
2. J.L. Sarkar, R.K. Verma, C. R. Panigrahi, B. Pati, "EMS: An Emergency Management SystemUsing Mobile Cloud Computing", TOPAS, IIT Kharagpur, 2017.
3. M. Rath, J.L. Sarkar , C. R. Panigrahi , B. Pati, "QTM : A QoS Task Monitoring System for Mobile Adhoc Networks", Springer, In Proc. of 4th International Conference on Advanced Computing, Networking and Informatics (ICACNI-2017), NIT Goa, (Accepted).

### **Year-2016**

1. B. Pati, J. L. Sarkar, and C. R. Panigrahi,"ECS: An Energy Efficient Approach to Select Cluster-Head in Wireless Sensor Networks", Arabian Journal for Science and Engineering (Springer),Vol. 42, No. 2, pp 669-676, 2016, (Indexed by SCI Expanded), Impact Factor: 2.334.

2. C. R. Panigrahi, J.L. Sarkar, and B. Pati, "CPDA: A Conflict-free Periodic Data Aggregation Technique in Wireless Sensor Networks", *Egyptian Informatics Journal* (Elsevier), ISSN:1110-8665, 2016, ( Indexed by SCI Expanded), <http://dx.doi.org/10.1016/j.eij.2016.06.005>, Impact Factor: 3.943.
3. Ramasamy V, J. Sarkar, R. Debnath, J.L. Sarkar, B. Pati, and C. R. Panigrahi, "MusMed: Balancing Blood Pressure with the Help of Music Therapy and ARBs", *International Conference on Computational Intelligence in Data Mining (ICCIDM-2016)*, Springer, KIIT University, Odisha, India, Dec.10-11, 2017 (Accepted).
4. B. Pati, J.L. Sarkar, and C. R. Panigrahi, "eCloud: An Efficient Transmission Policy for Mobile Cloud Computing in Emergency Areas", In *Proc. of 4th International Conference on Advanced Computing, Networking and Informatics (ICACNI- 2016)*, NIT Rourkela, India, Sept. 22-24, 2016, Springer (Accepted) (Best Student Travel Paper Award).
5. B. Pati, J.L. Sarkar, and C. R. Panigrahi, "CQS: A Conflict-free Query Scheduling in Wireless Sensor Networks" *The 3rd International Conference on Recent Advances in Information Technology (RAIT-2016)*, ISM Dhanbad, India, Mar. 3-5, 2016, (IEEE Xplore), (Accepted).
6. C. R. Panigrahi, J.L. Sarkar, and B. Pati, "E3M: An Energy Efficient Emergency Management System Using Mobile Cloud Computing", *10th IEEE International Conference on Advanced networks and telecommunications systems (IEEE-ANTS- 2016)*, (IEEE Xplore), IISc, Bangalore, Nov. 6-9, 2016. (Accepted)
7. R.K. Verma, C. R. Panigrahi, B. Pati, and J.L. Sarkar, "M2C: An Energy Efficient Mechanism for Computation in Mobile Cloud Computing", *International Conference on Advanced Computing and Intelligent Engineering (ICACIE-2016)*, Springer, C.V. Raman College of Engineering (Autonomous), Bhubaneswar, Dec. 21-23, 2016 (Accepted).
8. J.L. Sarkar, C. R. Panigrahi, B. Pati, and R. Prasath, "MiW : An MCC- WMSN Integration Approach for Performing Multimedia Applications", *The 4th International Conference on Mining Intelligence and Knowledge Exploration (MIKE-2016)*, Springer Center for Computing Research (CIC) of the National Polytechnic Institute (IPN), Mexico, November, 13-19, 2016.

#### **Year-2015**

1. J.L. Sarkar, C. R. Panigrahi, B. Pati, and H. Das, "A Novel Approach for Real-Time Data Management In Wireless Sensor Networks", In *Proc. of 3rd International Conference on Advanced Computing, Networking and Informatics (ICACNI-2015)*, KIIT University, India, DOI:10.1007/978-81-322-2529-4\_62, ISBN 978-81-322-2529-4, vol. 2, pp. 599-607, June 23-25, 2015 (Springer).
2. B. Pati, J.L. Sarkar, C. R. Panigrahi, and Mayank Tiwary, "ARTQS: An Advanced Real-Time Query Scheduling Approach in Wireless Sensor Networks", In *Proc. of 1st International Conference on Green Computing and Internet of Things (ICGCIoT-2015)*, Galgotias

University, Delhi, DOI:10.1109/ICGCIoT.2015. 7380461, INSPEC Accession Number: 15703631, pp. 219-224, Oct. 8-10, 2015 (IEEE Xplore).

3. B. Pati, J.L. Sarkar, C. R. Panigrahi, and Mayank Tiwary, "ECHSA: An Energy- Efficient Cluster-Head Selection Algorithm in Wireless Sensor Networks", The 3rd International Conference on Mining Intelligence and Knowledge Exploration, (MIKE-2015), IIIT Hyderabad, India, DOI:10.1007/978-3-319-26832-3 18, ISBN:978-3-319-26831-6, vol. 9468, pp. 184-193, Dec.9-11, 2015 (Springer).

4. C. R. Panigrahi, J.L. Sarkar, B. Pati, and H. Das, "S2S:A Novel Approach for Source to Sink Node Communication in Wireless Sensor Networks" The 3 rd International Conference on Mining Intelligence and Knowledge Exploration,(MIKE-2015), IIIT Hyderabad, India, DOI:10.1007/978-3-319-26832-3 38, ISBN:978-3-319-26831-6, vol. 9468, pp. 406-414, Dec. 9-11, 2015 (Springer).

5. M. Mishra, C. R. Panigrahi, J.L. Sarkar, and B. Pati, "GECSA: A Game Theory Based Energy-Efficient Cluster-Head Selection Approach in Wireless Sensor Networks", International Conference on Man and Machine Interfacing (MAMI-2015), C.V. Raman College of Engineering(Autonomous), Bhubaneswar, INSPEC Accession Number: 15937554, pp. 1-5, Dec. 17-19, 2015 (IEEE Xplore).

6. M. Mishra, C. R. Panigrahi, B. Pati, and J.L. Sarkar, "ECHS: An energy aware cluster headselection algorithm in Wireless Sensor Networks ", International Conference on Man andMachine Interfacing (MAMI-2015), C.V. Raman College of Engineering (Autonomous), Bhubaneswar, INSPEC Accession Number: 15937554, pp. 1-4, Dec. 17-19, 2015 (IEEE Xplore).

7. C. R. Panigrahi, B. Pati, Mayank Tiwary, and J.L. Sarkar, "EEOA: Improving Energy Efficiencyof Mobile Cloudlets using efficient Offloading Approach", 9th IEEE International Conferenceon Advanced networks and telecommunications systems (IEEE-ANTS-2015), ISI Kolkata,India, DOI: 10.1109/ANTS. 2015.7413617,INSPEC Accession Number: 15804752, pp. 1-6,Dec.15-18, 2015 (IEEE Xplore).

### **Book Publication**

1. A Majumder, J. L. Sarkar, A Majumder, Artificial Intelligence and Data Science in Recommendation System: Current Trends, Technologies and Applications, Bentham Science Publishers

2. C. R. Panigrahi, J. L. Sarkar, Ramasamy V, "Android Applications:An Introduction", UniversitiesPress India, (Accepted)

3. S. L. Peng, A. Mondal, J. L. Sarkar,Proceedings of International Conference on Advanced Communications and Machine Intelligence. MICA 2023.

### **Book Chapter**

1. Ramasamy V, C. R. Panigrahi, J. L. Sarkar, B. Pati, A. Majumder, M. Rath, S.-L. Peng, "Application of Deep Learning Strategies to Assess COVID-19 Patients", Computational Intelligence Techniques for Combating COVID-19, Springer, pp. 27-43, ([https://doi.org/10.1007/978-3-030-68936-0\\_2](https://doi.org/10.1007/978-3-030-68936-0_2)).
2. B. Pati, J. L. Sarkar, C. R. Panigrahi, "Introduction to Bigdata and it's Architecture", Laxmi Books Publications, ISBN: 978-1-365-01624-0 pp. 57-77, 2015.
3. B. Pati, R.K. Verma, J. L. Sarkar, C. R. Panigrahi, "Energy-aware Issues for Handling Big Data in Mobile Cloud Computing", Springer, Mobile Big Data, pp 233-256, 2017.
4. Ramasamy V, Gomathi B, J. L. Sarkar, C. R. Panigrahi and B. Pati, "Big Data Analytics for Prevention and Control of HIV/AIDS", Data Intensive Computing Applications for Big Data, IOS Press, 2018, DOI: 10.3233/978-1-61499-814-3-359, pp. 359 - 385, 2018.
5. V Ramasamy, B Gomathy, C. R. Panigrahi, J. L. Sarkar, B. Pati, A. Majumder, "Machine Learning Techniques and Tools Merits and Demerits", New Age Analytics: Transforming Internet (AAP-CRC Publication), 2019.

(b) Details of Seminar/Workshop/Conference.

**Invited Speaker/Keynote Lecture**

- IITKharagpur:Workshop2024  
Hands-on Introduction to Internet of Things (IoT) with Machine Learning (ML)
- TCEA & CSI(Kolkata):FDP 2024  
FDP on Modern and Innovative Tools in Engineering Education
- BTTTC Agartala:Seminar 2024  
2-Days national seminar on Emerging trends in teacher education towards sustainability: A focus on preparing teachers for new education
- TripuraUniversity:ATAL FDP2023  
AICTE Training and Learning (ATAL) academy sponsored Faculty Development Program on "Security aspects of Internet of Things (IoT) based EcoSystem"
- InternationalConference:Tamil Nadu  
2022International Conference on Advanced Communications and Machine Intelligence [MICA 2022]  
InternationalConference:Mauritius2020  
6th International Conference on Advanced Computing and Intelligent Engineering [ICACIE 2020]



- International Conference: Bhubaneswar 2021  
7th International Conference on Advanced Computing and Intelligent Engineering [ICACIE 2021]

**Workshops/Short term Courses Attended**

1. QIP/AICTE sponsored short term course on IoT, Convergence of Sensing, Cloud, and Big Data Networking, School of Information Technology, IIT Kharagpur, July 13-26, 2015 (2 weeks)
2. National workshop on Cloud Computing (NWCC 2015), C.V. Raman College of Engineering (Autonomous), Bhubaneswar, Odisha, Mar. 27-28, 2015 (2 Days).
3. Short term course on Internet of Things (IoT), in collaboration with IISc Bangalore and MSME, Govt. of India, CTTC, Bhubaneswar, Sept. 26-29, 2015 (4 days).
4. Short term course on Optimization Technique and its Engineering Applications, C.V. Raman College of Engineering (Autonomous), Bhubaneswar, Odisha, June 9-13, 2015 (1 week).
5. AICTE recognized short term course (ICT based) on Wireless Networks in collaboration with NITTTR Chandigarh and C.V. Raman College of Engineering (Autonomous), Bhubaneswar, May 2-6, 2016 (1 week).
6. AICTE recognized short term course (ICT based) on Open Source Technologies, C.V. Raman College of Engineering (Autonomous), Bhubaneswar, Odisha, 2016 (1 Week).

(c). Professional membership of reputed bodies if any.

- IEEE ComSoc MMTC Communications Frontiers, IEEE Publisher, Co-director
- International Conference on Advanced Communications and Machine Intelligence (MICA), Founder
- Smart Tourism, Asia Pacific Academy of Science, Editor
- International Conference on Advanced Computing and Intelligent Engineering (ICACIE), Co-Founder

- International Journal of Advanced Intelligence Paradigms, Inderscience, Editor
- International Journal of Computational Systems Engineering, Inderscience, Editor
- Frontiers in the Internet of Things, Lausanne, Switzerland, Section Editor