

Prof. (Dr.) Mrinal Kanti Deb Barma, FIE

Professor & HoD

Department Computer Science and Engineering,

National Institute of Technology Agartala Barjala, Jirania, West Tripura, India-799046

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Education

- **Ph.D** (Information Technology) Assam University, Silchar.
- **M.Tech** (Computer Science & Engineering), Motilal Nehru National Institute of Technology, Allahabad.
- **B.Tech** (Computer Science & Engineering), Institute of Engineering and Technology, Sitapur Road, Lucknow University.

Experience :

- Teaching experience (25 Years+)
- Research experience (16 Years+)
- Industry experience (5 Years)

Current Research Interest

- MANET Routing Protocols, Energy Efficiency in WSN, Vehicular Ad hoc Network, Cyber Security in IoT, Software Defined Network.
- Software Engineering with special interest in Software metrics analysis and Regression testing

Subject Offered at UG/PG level

Graduate Level : Data Communication and Networking, Data Structure, Computer Organisation and Architecture, Computer Networks, System Analysis and Design, Software Engineering, Advance Software Engineering, Cryptography and Network Security, Advanced Computer Architecture, High Performance Computing, Data Mining and Warehousing, E-Commerce

Post Graduate Level: Wireless Communication and Networking, Advanced Computer Networking, Wireless Sensor Networks, Advanced Computer Networks.

Teaching & Research Experience/Assignments

- **Professor**, Department of Computer Science & Engineering, National Institute of Technology, Agartala (26th February 2024 to till date)
- **Associate Professor**, Department of Computer Science & Engineering, National Institute of Technology, Agartala (20th February 2019 to 26th February 2024)
- **Assistant Professor**, Department of Computer Science & Engineering, National Institute of Technology, Agartala (September 2009 to February 2019)
- **Faculty In-charge & Coordinator** for Data Communication & Computer Network Lab August 2015 to till date)
- **Senior Lecturer**, Department of Computer Science & Engineering, National Institute of Technology, Agartala (July 2008 to September 2009)

- **Lecturer**, Department of Computer Science & Engineering, National Institute of Technology, Agartala (*March 2002 to July 2008*)
- **Lecturer (Ad-hoc)** Department of Computer Science & Engineering, Tripura Engineering College, Agartala (*February 2000 to January 2002*)
- **System Analyst**, Tripura University, Suryamani Nagar, Agartala (*September 1997 to January 2000*)
- **Management Trainee**, Management Training Institute, SAIL, Ranchi (*February 1996 to September 1996*).
- **Coordinator, IT Lab**, Department of Computer Science & Engineering, National Institute of Technology, Agartala (*December 2004 to May 2006*)
- **Lab-In-charge**, Department of Computer Science & Engineering, Tripura Engineering College (*September 2000 to January 2002*)
- **In-Charge, Computer Centre**, Tripura University (*February 2002 to March 2002*)
- **Guest Lecturer**, Tripura University (*February 2001 to September 2002*)

Outreach Activities:

- **External Member**, Board of Studies for School of Computer Application, KIIT Bhubaneswar
- **External Member**, Technical Evaluation Committee of the RPF of *Design, Develop, Implement and Maintain University Management System* for the Maharaja Bir Bikram University Agartala, Tripura
- **Member**, Selection Committee to select system Analyst cum System Administrator in National Forensic Science University, Tripura Campus, Agartala, 28th December, 2022.
- **External Member**, Selection committee for appointment of guest Teacher for Basic Computer Skills, MBB University, since 2021
- **External Member** of Research Advisory Committee (RAC), Department of Computer Science & Engineering and Information Technology, Tripura University, since October, 2019
- **Member**, Selection Committee, Tripura University (*June 2006 to June 2007*)
- **Member**, Selection Committee, Tripura Public Service Commission (2012)
- **Member**, Syllabus Review Committee, Tripura Public Service Commission (2013)
- **Member**, Syllabus Committee, Tripura University (*September 2005 to June 2007*)
- **Project Evaluator**, for MCA and BCA programmes, RCL(2600) , IGNOU , Agartala RC
- **External Examiner** for PG programmes in Department of Computer Sc. & Engg. and Information Technology, Tripura University, since 2017

Institutional Responsibilities

- **Head**, Department of Computer Science & Engineering, National Institute of Technology Agartala (*December 2004 to June 2009, May 2012 to June 2012, February 2015 to March 2018, May 2020 to November 2022, July 2024 to till date*)
- **Chairman** for finalization of specification of Desktop Computers also evaluation of technical bids of tender etc. (w.e.f 10/05/2023 till date)
- **Coordinator** NIMCET (w.e.f 22/06/2023 till date)
- **Chairman**, Technical specification of items required for Virtual classroom
- **Chairman**, Software Procurement to enhance/upgrade the IT backbone of the Institute. (w.e.f 16/10/2023 till date)
- **PI-In-charge** (CCMT/CCMN) 2024
- **Chairman**, Short listing Committee for Asst Professor Recruitment
- **Committee Member** for MCA, MTech and PhD Admission
- **Chairman**, Research Operating Grant, NIT Agartala (*August, 2019 to till date*)
- **Chairman**, GeM, CSED since *November, 2019*
- **Chairman**, Departmental Promotion Committee (DPC),NIT Agartala for Non teaching since *September, 2019*
- **Single Point of Contact** (SPOC), for TEQIP-III, NIT Agartala for implanting ERP. Since *May, 2019*

- **Associate Nodal Officer** for Social Media of NIT Agartala since *April, 2018*.
- **Associate Dean (Faculty Welfare) & PIO** since *16th April, 2018*.
- **Chairman**, Departmental Purchase Committee, Department of Computer Science & Engineering, National Institute of Technology, Agartala(*September 2011 to February 2015*)
- **Head (I/C)**, Department of Computer Science & Engineering, Tripura Engineering College (*February 2003 to May 2003*)
- **Chairman** for Disciplinary Committee, CSED *January 2012 to till date*
- **Chairman** of **DUPC** (Departmental Under Graduate Program Committee) NIT Agartala *till 23-03-2018*
- **Chairman** of **DPPC** (Departmental Post Graduate Program Committee) NIT Agartala *till 23-03-2018*
- **Dy. Centre In-charge, NIMCET 2015, 2016 and 2017** admission at NIT Agartala.
- **Chairman** for NBA visit CSED 2018
- **Convener** for procurement of Desktop PC 15-03-2017 to till date
- **Centre In-charge, NIMCET 2015, 2016 and 2017 Examination** at NIT Agartala.
- **Preceding Officer, NIMCET 2015, 2016 and 2017 Admission**
- **Chairman, DPPC CSE & IEI Dept. & DUPC, CSE Dept. 2015, 2016, 2016 and 2017.**
- **Technical Committee Member of NIMCET Admission, 2016-18**
- **Core Committee Member** of Scrutiny of applications/eligibility checking of the candidates for Dy. Registrar, Asstt. Registrar, Dy. Librarian, Asstt. Librarian and Executive Engineer 2018.
- **Core committee member** for Dean University related matters to look after various activities related to the conversion of Tripura Engineering College to National Institute of Technology Agartala.
- **Team Leader cum Proposer** to set up general purpose computer lab, centralized computer centre, Internet Technology lab, Data communication and Computer Networking Lab, VSAT Installation and maintenance as Coordinator.

Professional Membership & Activities:

- Sr. Member of IEEE **No: 94847677**.
- Fellow Member of The Institution of Engineers (India), FIE, **No: F-1286613**
- Life Member of Solar Energy Society of India, **No. LM/2857/2023**
- Member of International Association of Engineers (**IEANG**), **Member No: 111147**
- Member of International Association of Computer Science and information Technology (**IACSIT**), **Member No: 80343379**
- Member of International Innovation Scientific & Research Organization (**IISRO**), **No: 2013-1198**
- Member of Science and Engineering Institute (**SCIEI**), **No: 20140822001**
- **Co-Chairman**, Computer Engineering Division, and **Joint Honorary Secretary** (Publication), IE (I) Tripura State Centre. Gurkhabasti, Agartala, Tripura since 2017 to 2022.
- **Honorary Secretary**, IE (I) Tripura State Centre, Tripura for the session 2022-2024.

Research and Project Guidance

- ☐ Ph. D Candidates: **5** Awarded, and 6 Ongoing
- ☐ PG Candidates: 17 Completed, 2 Ongoing
- ☐ UG Candidates: 17 Completed, 2 Ongoing

Details of Ph.D Students Guided

1. Mr. Jayanta Pal

Title of the Thesis: *Cost Efficient Logic*

Synthesis in QCA Embedding Underlying Clocking Scheme

Awarded on **27th January, 2022**

2. Miss. Habila Basumataty

Title of the Thesis: *Method to Maximize the Lifetime of Wireless Sensor Network using Single Sink*

Awarded on **20th May, 2022**

3. Miss. Smita Das

Title of the Thesis: *Computational Geometry based technique for Coverage-Hole Patching using Hole-Area Estimation and Hole-Boundary*

Detection in Wireless Sensor Network

Awarded on **27th June, 2022**

4. Mr. Arindom Debnath

Title of the Thesis: *Improved Routing Methods to Maximize the Network Performance in Vehicle to Vehicle Communication*

Awarded on **25th July, 2022**

5. Miss. Mili Dhar

Title of the Thesis: *New optimization techniques for optimal controller placement in software defined networks*

Awarded on **7th March, 2023**

Details of Ongoing Ph. D. Students

1. Mr. Rajib Chowdhuri (Full Time)
2. Miss. Sharmistha Majumder (Full Time)
3. Mrs. Priyanka Sarkar (Part Time)
4. Mrs. Purabi Debbarma (Part Time)
5. Mr Asish Roy Chowdhury(Part Time)

M.Tech. & MCA Projects Supervised:

1.Rajib Chowdhuri

Title of the Dissertation: *Enhancing the performance on AODV using node remaining energy and aggregate interface queue length*

Awarded on 2013

2. Dibakar Chakraborty

Title of the Dissertation: *Effective QOS Provisioning in Multirate Wireless Mesh Networks through a WCMAB Metric based on node to node available bandwidth estimation*

Awarded on 2013

3. Purabi Debbarma

Title of the Dissertation: *Implementation and Comparing DSDV, AODV, DSR and LEACH routing Protocols for MANET*

Awarded on 2014

4. Harendra Sing

Title of the Dissertation: *Spectrum Sensing in Cognitive Radio Networks*

Awarded on 2015

5. Parenetashree

Title of the Dissertation: *Tree-based approaches for mining partially ordered sequential rules from sequence database*

Awarded on 2016

6. Sudeshna Das

Title of the Dissertation: *Data gathering mechanism of mobile data collector in wireless sensor network*

Awarded on 2016

7. Piyali Kar

Title of the Dissertation: *Energy efficient weight based clustering in MANET*

Awarded on 2016

8. Chinu Mog Choudhury

Title of the Dissertation: *Performance Enhancement of multi channel MAC Protocol utilization by boosting throughput in VANET*

Awarded on 2018

9. Rajat Bharti

Title of the Dissertation: *Haze Removal in Single Image using Filtering and Deep Learning Methods*

Awarded on 2021

10. Umang Sachdev

Title of the Dissertation: *Predictive Analysis of COVID19 Cases Using Timestamp Forecasting*

Awarded on 2021

11. Sushanth Ganjala

Title of the Dissertation: *Traffic Prediction for Intelligent Transportation System Using Deep Learning*

Awarded on 2022

12. Arnab Das (21PCS003)

Title : Depression Detection using LSTM and CNN Ensemble Method from Social Media Posts

Awarded on May 2023

13. Purba Pal (22PCS007)

Title: A study and Analysis of RPL-Based Power Consumption Attacks in WSN-6LoWPAN

Awarded: May 2024

MCA Project Supervised

1. Arindom Sarmah
Title of the Dissertation: *JRail Plus-Online Railway Passenger Reservation System and Employee Information System*
Awarded on 2014
2. Ankita Guleria
Title of the Dissertation: *Brokage Payment and Claim Management for Reserve Bank of India*
Awarded on 2015
3. Ravi Kumar
Title of the Dissertation: *Web based application for providing franchise and course certificate*
Awarded on 2018
4. Vaibhav Kumar Kushwaha
Title of the Dissertation: *Alcon-Document Exclusion*
Awarded on 2019
5. Varun Kumar Arya
Title of the Dissertation: *4UFANTASY(Work on Backend Panel)*
Awarded on 2020
6. Mrinal Sauraj
Title of the Dissertation: *Online Documents Sharing*
Awarded on 2022
7. Vaishali Patidar (20MCA009)
Title: *Packer and Movers*
May, 2023
8. Priya (21MCA019)
Title: *EMS- Track your Record*
May, 2024

Overseas Assignments

- **University of Birmingham, UK** for presenting research paper titled “DVRA-SN: Neighbour Based Distance Vector Routing Protocols for Mobile Ad Hoc Networks” attending 2014 Second International Conference on Advances in Computing, Communication and

Information Technology - CCIT 2014 at University of Birmingham, UK during 16-17, November 2014.

- **Bangkok, Thailand** for presenting research paper titled “Effective Performance Analysis of DVR-based Routing Protocols with Random waypoint in MANET”, at International Conference on Computer Networks and Information Technology (ICCNIT 2013), June 28-29, 2013.
- **Nanyang Technological University, Singapore** for presenting research paper titled “Energy Efficient Weight Based Clustering in MANET” ACM 2017 International Conference on Multimedia, Broadcasting and Network (ICMBN 2017) held during June 24th to 27th, 2017 at NTU Singapore..
- **University of Macau, China** for presenting research paper titled “Route Measurement Technique based on Entropy in Cluster Routing for Mobile Ad hoc Networks” International Conference on Big Data Management (ICBDM 2018) held during Feb 26th to 28th, 2018, at University of Macau, China
- **University of Hongkong** : Various laboratory visit in CSE Dept.
- **Bangladesh (Dhaka, Chitagong)**: Presented paper on “**Role of Information Technology in Rural Sector for Sustainable Development**” organised by Institute of Engineers (Comilla) IEB Centre, Bangladesh & Institute of Engineers (India) IEI, Tripura State Centre. 19th May, 2017

Country Visited: United Kingdom, Thailand, Singapore, Malaysia, Bangladesh, and China (Hongkong, Macau).

Project/Consultancy Undertaken:

- i. Worked as a **Member** of Consultant for *Shyama Prasad Mukharjee Rurban Mission National Rurban Mission (NRuM)*, Integrated Cluster Action Plan (ICAP), **Ministry of Rural Development, Government of India for Tripura Clusters**.
- ii. Developed Wireless Sensor Network & IoT laboratory funded by MHRD (TEQIP Completed in 2018)

Publication Details

- International Journals: 34
- International Conference: 39
- National Conference: 09
- Books: 02
- Book Chapters: 06

International Journals: 34

- i. Sharmistha Majumder, **M K Deb Barma**, Ashim Saha ARP spoofing detection using machine learning classifiers: an experimental study" Knowledge and Information Systems, 27 August 2024, <https://doi.org/10.1007/s10115-024-02219-y>
- ii. Rajib Chowdhuri, **M K Deb Barma** “Node position estimation based on optimal clustering and detection of coverage hole in wireless sensor networks using hybrid deep reinforcement learning”, The Journal of Supercomputing, June, 2023, Volume 79, pages 20845–20877, (2023) (**SCI** I.F 3.3)
- iii. Rajib Chowdhuri, **M K Deb Barma** “Enhancing Network Reliability: Exploring Effective Strategies for Coverage-Hole Analysis and Patching in Wireless Sensor Networks”, Wireless Personal Communications (**SCI**, I.F 2.2)
- iv. H Basumatary, A Debnath, **M K Deb Barma** & B K Bhattacharyya, “Centroid-Based Routing protocol with moving sink node for uniform and non-uniform distribution of wireless sensor nodes”, The Journal of Supercomputing, (**SCI**, **I.F-2.46**), **Published**. Available at <https://doi.org/10.1007/s11227-020-03414-8>, Vol. 77, Pages: 3727–3751, 2020, ISSN No. 0920-854
- v. H Basumatary, A Debnath, **M K Deb Barma** & B K Bhattacharyya, “Clustering Based Two Dimensional Motion of Sink Node in Wireless Sensor Networks” Wireless Personal Communications, (**SCI**, **I.F-1.06**) Vol.: 118, Page: 161–183, 2021, <https://doi.org/10.1007/s11277-020-08007-5>, ISSN No. 0929-6212

- vi. H Basumatary, **M K Deb Barma** “Comparative Study on Different Parameters Used for Energy Conservation in Wireless Sensor Networks” “IETE Technical Review, (SCI, I.F-1.33) Vol.: 118, Page: 1-13, 2021, <https://doi.org/10.1007/s11277-020-08007-5>, ISSN No. 0256-4602
- vii. H Basumatary, **M K Deb Barma** “Analysis of Mobile Sink Based Routing Protocols in Wireless Sensor Networks” “International Journal of Computational Intelligence & IoT, Vol.: 2, Issue: 3 2019.
- viii. Smita Das and **M K Debbarma**, “CHPT: an improved coverage-hole patching technique based on tree-center in wireless sensor networks”, Journal of Ambient Intelligence and Humanized Computing (Springer), (SCI, I.F-7.104) Published on 25-05-2020, doi: 10.1007/s12652-020-02038-3. Available at <https://link.springer.com/article/10.1007/s12652-020-02038-3>
- ix. Smita Das, **M. K Deb Barma**, “A Coverage-Hole Boundary Detection approach based on Tree-Traversal in Wireless Sensor Networks” Ad Hoc & Sensor Wireless Networks (Old City Publishing) (SCI, I.F-1.013) Accepted on 19-01-2022 Yet to Publish Abstract available at <http://www.oldcitypublishing.com/journals/ahsw-n-home/ahsw-n-forthcoming-papers/>
- x. Smita Das, **M. K Deb Barma**, “A Review on Coverage-Hole Boundary Detection Algorithms in Wireless Sensor Networks,” Computación y Sistemas, Published doi: 10.13053/CyS-24-1-3133 available at: http://www.scielo.org.mx/scielo.php?pid=S1405-55462020000100121&script=sci_arttext&tlng=en, Vol. 24, No. 1, Page: 121–140, ISSN NO. 2007-9737(online)1405-5546(print)
- xi. Smita Das, **M. K Deb Barma**, “Node Position Estimation for Efficient Coverage Hole-Detection in Wireless Sensor Network” Computación y Sistemas, Published doi: 10.13053/CyS-23-1-2815 available at: http://www.scielo.org.mx/scielo.php?pid=S1405-55462019000100185&script=sci_arttext, Vol. 23, No 1, ISSN No. 2007-9737(online)1405-5546(print), Page: 185-195, 2019
- xii. Smita Das, **M. K Deb Barma**, “Computational geometry based coverage hole-detection and hole-area estimation in wireless sensor network.” Journal of High Speed Network, Vol. 24, no. 4, pp. 281-296, 2018. DOI: 10.3233/JHS-180595 (Scopus).
- xiii. Mili Dhar RS CS-ED: Dhar, M., Bhattacharyya, B. K., **M.K. Debbarma**, M., & Debbarma, S. (2021). A new optimization technique to solve the latency aware controller placement problem in software defined networks. Transactions on Emerging Telecommunications Technologies, 32(10), e4316. ISSN- 2161-3915
- xiv. Mili Dhar RS CS-ED: 2. Dhar, M., Debnath, A., Bhattacharyya, B. K., **Debbarma, M. K.**, & Debbarma, S. (2022). A comprehensive study of different objectives and solutions of controller placement problem in software-defined networks. Transactions on Emerging Telecommunications Technologies, e4440. ISSN- 2161-3915
- xv. Dhar, M., Bhattacharyya, B. K., **M. K. Debbarma**, & Debbarma, S. (2021). A cost-effective and load-balanced controller placement method in software-defined networks. International Journal Of Network Management. ISSN-1099-1190. [Accepted]
- xvi. A Debnath, **M. K Deb Barma**, “Energy efficient Dynamic and Self-optimized Routing In Wireless Sensor Network Based on Ant colony Optimization.” International Journal of Networking and Virtual Organisations (IJNVO), (Scopus), DOI: 10.1504/IJNVO.2019.10011635
- xvii. A. Debnath, H. Basumatary, A. Tarafdar, **M. K Debbarma**, B.K. Bhattacharyya, “Center of Mass and junction based data routing method to increase the QoS in VANET,” **AEU - International Journal of Electronics and Communications (Elsevier)**, Published Available at <https://doi.org/10.1016/j.aue.2019.05.026>, Vol. 108, Page: 36-44, 2019
- xviii. **Debnath, A.**, Basumatary, H., Dhar, **Debbarma M.K**, Bhattacharyya B.K “Fuzzy logic-based VANET routing method to increase the QoS by considering the dynamic nature of vehicles”, Computing,
- xix. A Debnath, H Basumatary, Mili Dhar, B K. Bhattacharyya & **M K Debbarma** “A Routing Technique for Enhancing the Quality of Service in Vanet,” IETE Journal of Research, <https://doi.org/10.1080/03772063.2021.1886879>
- xx. Piyali Kar; **M.K Deb Barma**; Sudipta Roy; S.K Sen “Energy Efficient Weight Based Clustering In MANET” , International Journal of Applied Engineering Research (Scopus), Vol. 10 No. 86, PP 82 - 86, ISSN 0973 – 4562, November (2015)
- xxi. **M. K Deb Barma**, S. K. Sen, Sudipta Roy “DVRA-SN: Neighbour Based Distance Vector Routing Protocols for Mobile Ad Hoc Networks,” International Journal of Advances in Computer Networks and its Security (IJCNS), Volume 5, Issue 1, Page 47-50, ISSN. 2250-3757, April 2015
- xxii. **M. K. Debbarma**, J. Debbarma, Santanu Kumar Sen, and Sudipta Roy “A CBNR: New DVR-Based routing Approach in Mobile Ad hoc Networks”. *International Journal on*

- Computer Science & Network (IJCSN)* ISSN : 2277 – 4520 [Online, Vol 3, Issue 4, PP- 247-252, August 2014,
- xxiii. Rajib Chowdhury, **M. K. Debbarma**, Santanu K Sen, and Sudipta Roy “*Enhancing the Performance of AODV using Node Remaining Energy and Aggregate Interface Queue Length*” *International Journal of Recent Trends in Engineering & Technology* [ISSN: 2158-5555 (print) ISSN: 2158-5563 (online)] by the ACEEE, USA.
 - xxiv. Jhunu Debbarma, **M. K. Debbarma**, Sudipta Roy and Rajat K. Pal “*Cross-layer Architecture Resource Accessibility through cross-layer control in Mobile Ad-hoc Networks,*” published in *Elixir International Journal* ISSN (ISSN: 2229 -712X), 57 2013, April , 2013, 14197-14201.
 - xxv. D. Chakraborty, **M. K. Debbarma**, and Sudipta Roy “*QoS Provisioning in WMNs: Challenges and a Comparative Study of Efficient Methodologies*” *International Journal of Computer Application (IJCA)*,) ISSN : 0975 – 8887, Volume 65– No.3, Page 24-27, March 2013.
 - xxvi. Jhunu Debbarma, **M. K. Debbarma**, Sudipta Roy and Rajat K. Pal “*Literature Survey on Cross-Layer Design Architecture for Bandwidth Management in Mobile Ad-hoc Networks,*” published in *International Journal of Computer Application (IJCA)* ISSN : 0975 – 8887, Dec 18, 2012, Vol. 60, No. 7, PP-1-8
 - xxvii. Anupam Jamatia, Tribid Debbarma, **M. K. Debbarma**, Swapan Debbarma, “*Scenario Based Pause Time Analysis of AODV, DSDV and DSR over CBR connections in MANET*” *Lecture Notes on Software Engineering (LNSE)*, 2013, Vol.1 No. 1, PP-57-60, ISSN 2301-3559.DOI: 10.7763/LNSE.2013.V1.13
 - xxviii. **M. K. Debbarma**, S K Sen, and Sudipta Roy. DVR-Based MANET routing protocols Taxonomy. *International Journal of Computer Science & Engineering Survey (IJCSSES)* ISSN : 0976 – 2760 [Online]; 0976 - 3252 [Print], Vol 3, No. 5, PP- 51-69, October 2012, DOI : 10.5121/ijcses.2012.3504
 - xxix. **M. K. Debbarma**, S K Sen, and Sudipta Roy. A review of DVR-based routing protocols for mobile ad hoc networks. *International Journal of Computer Application (IJCA)* ISSN: 0975 – 8887 [Online]. Vol. 58-No-3, PP-1-8, Nov 2012/ DOI: 10.5120/9259-3433
 - xxx. **M. K. Debbarma**, S. Debbarma, N. Debbarma, “A Review and Analysis of Software Complexity Metrics in Structural Testing” *Proceedings of International Journal of Computer and Communication Engineering (IJCCE)*, ISSN: 2010-3743, Vol.2, No.2, March 2013, pp 129-133. DOI: 10.7763/IJCCE.2013.V2.154
 - xxxi. **M. K. Debbarma**, ShaileshTiwari, and A. K Misra “ Efficient Path Selection Strategy based on Static Analysis for Regression Testing” *International Journal of Computer Theory and Engineering (IJCTE)*, ISSN: 1793-821X (Online); 1793-8201 (Print), Vol. 5, No. 2, PP-248-256, April 2013.
 - xxxii. **M. K. Debbarma**, N. P Sing, A. Shrivastava, and R. Mishra “ Analysis of Software Complexity Metrics for Regression Testing”*ACEEE International Journal on Information Technology(IJIT)*, Volume -1, Issue-2, September, 201, Page-14-18
 - xxxiii. N Kar, **M. K. Debbarma**, A Saha and D Rudrapal “ A Study of Implementing Automated Attendance System Using Face Recognition Technique”*International journal of Computer and Communication Engineering (IJCCE)*, Vol. 1, No. 2, Page-100-103, July 2012, ISSN No. 2010-3743.
 - xxxiv. S Deb, D. Bhattacharya, **M. K. Debbarma** “Interpretation of significant eye blinks with the use of intelligent agent for effective human computer interaction” *International Journal of Computer Science and Network (IJCSN)* , Volume 1, Issue 3, June 2012, ISSN 2277-5420

International Conference: 39

- i. Archita Bhattacharyya, Habila Basumatary, M.K. Deb Barma "A Review on Next-Generation Wireless Health Monitoring System: Privacy and Protection" in the International Conference on Machine Learning and Data Engineering (ICMLDE- 2024), Nov 28-29, 2024 at School of Computer Science, UPES, Dehradun, India.
- ii. Purba Pal, M.K. Deb Barma, Smita Das “Unveiling Energy Depletion Attacks in Wireless Sensor Network and Defensive Mechanisms”, *Lecture Notes in Electrical Engineering* (International Conference on Data Engineering & Machine Intelligence (ICDEMI - 2023), GITAM University, Bengaluru,
- iii. Habila Basumatary, M.K. Deb Barma, Rajib Chowdhuri “A review on recent techniques developed for energy conservation in Wireless Sensor Networks”, *IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT SYSTEMS, ADVANCED COMPUTING AND COMMUNICATION*, Assam University, Silchar

- iv. Arnab Das, M.K Deb Barma, Rabindra K. Barik," Learning Techniques for Depression Detection: A Comparative Studies", IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT SYSTEMS, ADVANCED COMPUTING AND COMMUNICATION, Assam University, Silchar
- v. Rajib Chowdhuri, **M K Deb Barma**, "A Review on Coverage and Connectivity Through Random Deployment of Nodes in Wireless Sensor Network", CCIS 1192. Springer, Singapore. (2020), Print ISBN: 978-981-15-3665-6.
- vi. Sharmistha Majumder, **M K Deb Barma**, and Ashim Saha, 'Deep Learning Based Sleep Detector Sensor Prototype for Avoiding Road Traffic Accident', ICCIIoT 2018.
- vii. Rajib Chowdhuri, M K Deb Barma, "Investigating Performance of Routing Protocols for Wireless Sensor Networks", International Conference on Computational Intelligence and Internet of Things (ICCIIoT), 14th – 15th December, 2018.
- viii. Rajib Chowdhuri, **M.K. Deb Barma**" *A Review on Coverage and Connectivity through Random Deployment of Nodes in Wireless Sensor Network*" International Conference on Computational Intelligence, Security & IoT (ICCISIoT 2019), National Institute of Technology Agartala, India, December 13-14, 2019
- ix. **M. K. Deb Barma et al** "*Dynamic Routing Protocol based on Ant Colony Optimisation in VANET*", International Conference on Computational Intelligence and Internet of Things" 14-15 December, 2018, NIT Agartala, (In Press) ELSEVIER-SSRN Digital Library
- x. **M. K. Deb Barma et al** "*Investigating Performance of Routing Protocols for Wireless Sensor Networks*" International Conference on Computational Intelligence and Internet of Things" 14-15 December, 2018, NIT Agartala, (In Press) ELSEVIER-SSRN Digital Library
- xi. **M. K. Deb Barma et al** "*Deep Learning Based Sleep Detector Sensor Prototype for Avoiding Road Traffic Accident*" International Conference on Computational Intelligence and Internet of Things" 14-15 December, 2018, NIT Agartala, (In Press) ELSEVIER-SSRN Digital Library
- xii. **M. K. Deb Barma et al** "*Analysis of Mobile Sink Based Routing Protocols in Wireless Sensor Networks*" International Conference on Computational Intelligence and Internet of Things" 14-15 December, 2018, NIT Agartala, (In Press) ELSEVIER-SSRN Digital Library
- xiii. **M. K. Deb Barma et al** "*Route Measurement Technique based on Entropy in Cluster Routing for Mobile Ad hoc Networks*" International Conference on Big Data Management (ICBDM 2018), Feb 26th to 28th, 2018, at University of Macau, China (**Scopus indexed**), Proceedings of the 2018 10th International Conference on Machine Learning and Computing, pp-300-304(Springer)
- xv. **M. K. Deb Barma et al.** "*Hole-Detection in Wireless Sensor Network: A Reviews*"in Recent Findings in Intelligent Computing Techniques, pp 87-96, Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 708) (Springer), Singapore, (**Scopus**),
- xvi. **M. K. Deb Barma et al.** "*Energy Efficient Weight Based Clustering in MANET*" ACM International Conference on Multimedia, Broadcasting and Network (ICMBN 2017), held on June 24th to 27th, 2017, at Nanyang Technological University, Singapore. (**Scopus**), published in proceedings of ICGSP'17, PP 101-105, DOI: <http://dx.doi.org/10.1145/3121360.3121366>
- xvii. Piyali Kar, **M. K. Deb Barma**, Pritam Kar "*Forecast Weighted Clustering In MANET*" Twelfth International Conference on Communication Networks (ICCN – 2016), August 19th – 21st 2016 at Hotel Capitol, Bangalore, India, Procedia Computer Science 89 (2016) 253 – 260, doi: 10.1016/j.procs.2016.06.054
- xviii. Rajib Chowdhury, **M. K. Deb Barma**, "*Impact of Pause Time and Mobility on Total Energy Consumption of Nodes*" IEEE Colossal Data Analysis & Networking (CDAN 2016), Medcaps Group of Institution, Indore, Madhya Pradesh during, **March 18 - 19, 2016**, DOI 10.1109/CDAN.2016.7570928, PP- 105-112
- xix. **M. K. Deb Barma**, Rajib Chowdhury, "*Comparison of Performance Metrics of ModAODV With DSDV*" *Proceeding of Springer* International Conference on Intelligent Communication, Control and Devices" (ICICCD'16), April 2-3, 2016, University of Petroleum and Energy Studies, Dehradun, Advances in Intelligent Systems and Computing, DOI 10.1007/978-981-10-1708-7_11, Vol. 479, PP- 105-112
- xx. **M. K. Deb Barma**, Sudeshna Das, "*Data Gathering Mechanism of Mobile Data Collector In Wireless Sensor Networks*", IEEE International Conference on Internet of Things and

- Applications(IOTA 2016, January22 – 24, 2016 at Maharashtra Institute of Technology, Pune, India, DOI 10.1109/IOTA.2016.7562760, PP-401-405.
- xxi. **M. K. Deb Barma**, Debasish Deb “*Performance Analysis of Network Monitoring Tool Through Automated*” **IEEE International Conference on Signal Processing And Communication Engineering Systems**, organised by Department Of Electronics And Communication Engineering (DST-FIST, Sponsored Department), K L University, Vaddeswaram, Guntur Dist., Andhra Pradesh, India, during 2-3 January, 2015.PP 402-406, DOI: 10.1109/SPACES.2015.7058294
 - xxii. **M. K. Debbarma**, S. K. Sen, Sudipta Roy, “*DVRA-SN: Neighbour Based Distance Vector Routing Protocols for Mobile Ad Hoc Networks*”, 2014 International Conference on Advances in Computing, Communication and Information Technology (CCIT 2014), November 16-17, 2014, Birmingham, University, London, United Kingdom, pp. 41-44, ISBN 978-1-63248-005-7.
 - xxiii. **M. K. Debbarma**, Jhunu Debbarma, S. K. Sen, Sudipta Roy, *A New DVR-based Routing Approach in Mobile Ad hoc Networks*” **IEEE International Conference on Soft Computing & Machine Intelligence (ISCMi2014)**, New Delhi, India during September 26-27, 2014
 - xxiv. **M. K. Debbarma**, Jhunu Debbarma, S. K. Sen, Sudipta Roy, “*DVRX: A Novel Approach in DVR based Routing for a MANET*”**ACEEE International Conference on Multimedia Processing, Communication and Information Technology – MPCIT 2013** , December 19 - 21, 2013, Shimoga, Karnataka, INDIA.
 - xxv. Jhunu Debbarma, **M. K. Debbarma**, S. K. Sen, Sudipta Roy, R. K. Pal “*A Cross-layer Interaction Framework for Performance Evaluation of Mobile ad hoc Networks*” **ACEEE International Conference on Multimedia Processing, Communication and Information Technology – MPCIT 2013** , December 19 - 21, 2013, Shimoga, Karnataka, INDIA.
 - xxvi. **M. K. Debbarma**, Jhunu Debbarma, S. K. Sen, Sudipta Roy “*A DVR- based Routing Protocol with Special Neighbours for Mobile Ad-Hoc Networks*”, published in the proceedings of **IEEE International Symposium on Computational and Business Intelligence (ISCBI 2013)**, August 24-25,2013, New Delhi , PP-235-238
 - xxvii. Rajib Chowdhury, **M. K. Debbarma**, Santanu K Sen, and Sudipta Roy “*Enhancing the Performance of AODV using Node Remaining Energy and Aggregate Interface Queue Length*”**IEEE International Symposium on Computational and Business Intelligence (ISCBI 2013)**.New Delhi, India during August 24-26, 2013
 - xxviii. Jhunu Debbarna, **M. K. Debbarma**, N. Debbarma, Sudipta Roy, R. K .Pal “*An Energy – Efficient Protocol for Power Conservation in Mobile Ad-hoc Networks*”,published in the proceedings of **IEEE International Symposium on Computational and Business Intelligence (ISCBI 2013)**, August 24-25, New Delhi, PP-239-242.
 - xxix. Jhunu Debbarma, **M. K. Debbarma**, Sudipta Roy, Rajat K. Pal, “*Energy Management System in Mobile Ad hoc-Networks through Cross-layer framework*” published in the proceedings of **IEEE Workshop on Computational Intelligence Theories, Applications and Future Directions**, 14 July, 2013 IIT Kanpur.
 - xxx. **M. K. Debbarma**, Santanu K. Sen, Sudipta Roy “*Effective Performance Analysis of DVR-based Routing Protocols with Random Way Point in MANET*”published in the proceedings of **International Conference on Computer Networks and Information Technology (ICCNIT 2013)**, Bangkok, Thailand, 29-30, June,2013, PP- 16-21.
 - xxxi. **M. K. Debbarma**, Rajib Chowdhuri, S. K. Sen, Sudipta Roy “*Comparison of Performance Metrics of DVR protocol using Networks Node Remaining Energy and Aggregate Interface Queue Length*”published in the proceedings of**Elsevier Seventh International Conference on Communication Network (ICCN 2013)**, August 9-11, 2013, Bangalore .
 - xxxii. Dibakar Chakraborty, **M K Debbarma**, “*MAvB: A Maximum Available Bandwidth based routing metric for multiradio multichannel Wireless Mesh Networks ensuring QoS provisions for real time communications*”**IEEE International Conference on Electrical, Computing and Communication Technologies (CONECCT)**, 17-19, Jan, 2013, P-1-6, World Trade Center, Bangalore.
 - xxxiii. Anupam Jamatia, Tribid Debbarma, **M K Debbarma**, S Debbarma, “*Scenario Based Pause Time Analysis of AODV, DSDV and DSR over CBR connections in MANET*” **International**

- Conference on Software and Computing Technology (ICSCT 2012), to be held December 21-22, 2012, Kuala Lumpur, Malaysia. ISSN 2301-3559.
- xxxiv. **M K Debbarma**, Alak Roy and Dr. Sudipta Roy “*Effective Energy Efficient Communications in Wireless Sensor Networks for Multiplicity of Environment*” **IEEE** International Conference on Communication Information and Computing Technology (ICCICT-2012) 2012, October 18-20, 2012, Mumbai India.
 - xxxv. Alak Roy, Manasi Hazarika, **M K Debbarma** “*Energy Efficient Cluster Based Routing in MANET*” **IEEE** International Conference on Communication Information and Computing Technology (ICCICT-2012) 2012, October 18-20, 2012, Mumbai India .
 - xxxvi. Smita Das, Dwijen Rudrapal, S. Debbarma, N. Kar and **M K Debbarma** “*Implementation of Gesture in scheming Mouse Events for camera and projector based Virtual Touch Screen*”, 4th International Conference on Electronics Computer Technology (ICECT2012), April 6-8, 2012, ISBN: 978-1-4673-1850-1/12, Page No. 468-472, Kanyakumari, India.
 - xxxvii. **M. K. Debbarma**, Nirmalya Kar, Ashim Saha “*Static and Dynamic Software Metrics Analysis in Regression Testing*”, **IEEE** 2nd International Conference on Computer Communication and Informatics (ICCCI 2012), 10-12, January 2012, Vol.2, ISBN 978-4577-1582-2, **IEEE** Catalog No. CFP1208R, Page- 265-270, Coimbatore, India.
 - xxxviii. N.P Sing, **M.K. Debbarma**, R. Mishra, and S. Sachan “*The Review: Lifecycle of Object-Oriented Software Testing* ” 3rd **IEEE** International Conference on Electronics Computer Technology (IEEE ICECT 2011), 8-10, April- 2011, Vol.3, Page no.52-56, ISBN 978-1-4244-8679-3, Kanyakumari, India.
 - xxxix. R. Mishra, N.P Sing, **M.K Debbarma**, and S.Sachan “*Analysis of Unit Testing using Extended Coloured Petri Net*”, International Conference on Technology and Information Systems (ICTIS 2010), Amritsar, Nov. 20-21, 2010, ISSN 0974-2255, Volume 2, Number. 3(2010), pp.501-506.

National Conference: 09

- i. Piyali Kar, **M .K Deb Barma**; “*Entropy based route measurement in cluster based routing in MANETs*”, National Conference on Engineering Problems and Application of Mathematics (EPAM-2016), held on 11-12 June, 2016, Jointly organized by Department of Civil Engineering & Department of Mathematics, NIT Agartala.
- ii. **M. K. Debbarma**, DVLN Somyalulu, Rayanoothala Praneetha Sree “*A Study on Sequential Patterns- A Survey and Research*” **IEEE** DST Sponsored National Conference on Recent Trends in Data Mining and Data Warehousing, held on 24-25, November, 2015, Page 1-10, Department of Information Technology, Aditya Institute of Technology and Management, Andra Pradesh.
- iii. **M K Debbarma**, Jhunu Debbarma, Santanu Kr. Sen, Sudipta Roy, “*A Study on Position-based Routing Protocols for Mobile Ad Hoc Networks*”, National Seminar on Security Aspects in Modern Communication System (NSSAMCS) -2013 held during March 5-6, 2013 at Gurunak Institute of Technology, Sodepur, Kolkata
- iv. **M.K. Debbarma**, Jhunu Debbarma, Santanu Kumar Sen, Sudipta Roy “*DVR-Based Hybrid Routing Protocols for Mobile Ad-hoc Networks: Applications & Challenges*”, National Conference on Research & Higher Education Information Technology (RHEIT 2013), Assam University, Silchar, Feb 4-5, 2013.
- v. Jhunu Debbarma, **M.K. Debbarma** , R. K Pal, Sudipta Roy, “*Mobile Ad-hoc Network: Challenges in the Research Activities*” National Conference on Research & Higher Education Information Technology (RHEIT 2013), Assam University, Silchar, Feb 4-5, 2013.
- vi. Ashim Saha, Suman Deb, Nirmalya Kar, **M. K. Debbarma**, “*Facial Expression Recognition Using Fuzzy Logic Principals*”, National Seminar on Rough Set, Fuzzy Set and Soft Computing (NSRFSC11) November 11-12, 2011, Tripura University, India.
- vii. **M. K. Debbarma**, Nirmalya Kar, Partha S Bhattacharjee and Ashim Saha, “*Two-Way Energy Efficient Communications in Wireless Sensor Networks: A Survey*”, National Conference on Pervasive Computing and Communications (NCPCC-2012), 28-29, February, 2012, BBIT, Kolkata, 2012.
- viii. Ashim Saha, **M.K. Debbarma** and Nirmalya Kar “*A Proposed Technique of Online Face Authentication to Enrich the Security of Personal Web Account*”, National Conference on Pervasive Computing and Communications (NCPCC-2012) ,28-29, February, 2012, BBIT, Kolkata, 2012.

- ix. Partha S Bhattacharjee and **M.K. Debbarma**, “*A Survey on Anomaly Detection on Industrial Networks*”, National Conference on Pervasive Computing and Communications (NCPCC-2012), 28-29, February-2012 at BBIT, Kolkata, 2012.

Book/Book Chapter Authored / Published: 08

- i. ***Biometric Based Attendance System: Face Your Identity***, ISBN-10:3-8454-1957-1/3845419571, **2012**, LAMBERT, LAP LAMBERT Academic Publishing is a trademark of: AV Akademikerverlag GmbH & Co. KG Heinrich-Böcking-Str. 6-8 66121, Saarbrücken, Germany
- ii. ***An Efficient Path Selection Strategy for Regression Testing with Software Metrics Based Approach***, ISBN: 978-3-659-33630-0, **2013**, LAMBERT, LAP LAMBERT Academic Publishing is a trademark of: AV Akademikerverlag GmbH & Co. KG Heinrich-Böcking-Str. 6-8 66121, Saarbrücken, Germany
- iii. ***Comparison of Performance Metrics of ModAODV with DSDV and AODV***, Proceeding of International Conference on Intelligent Communication, Control and Devices , Part of the Advances in Intelligent Systems and Computing book series , Volume 479, pp-105-112, ISSN 2194-5357 ISSN 2194-5365 (electronic), ISBN 978-981-10-1707-0 ISBN 978-981-10-1708-7 (eBook) DOI 10.1007/978-981-10-1708-7. September, **2016**, Springer Nature
- iv. ***A Survey on Coverage Problems in Wireless Sensor Network Based on Monitored Region***, 2018, Published, doi: https://doi.org/10.1007/978-981-13-0277-0_29 Vol. 39, **2019**, **Pages:** 349-359, Part of the [Lecture Notes in Networks and Systems](#) book series (LNNS)
- v. ***Hole Detection in Wireless Sensor Network: A Review***, Published, doi: https://doi.org/10.1007/978-981-10-8636-6_10, Vol. 708, **2018**, **Pages:** 87-96, Part of the , [Advances in Intelligent Systems and Computing](#) book series (AISC)
- vi. ***A Comparative Study on Coverage-Hole Detection Improvement with Inner Empty Circle over Delaunay Triangulation Method in Wireless Sensor Networks***, Published, doi: https://doi.org/10.1007/978-981-15-5397-4_56, Vol. 134, 2021, Pages: 553-561, 2020, Part of the [Lecture Notes in Networks and Systems](#) book series (LNNS)
- vii. ***Silent Listening to Detect False Data Injection Attack and Recognizing the Attacker in Smart Car Platooning***, “Computational Intelligence for Unmanned Aerial Vehicles Communication Network” to be published in “Studies in Computational Intelligence” by Springer Publisher (Indexed Scopus).pp-145-165, **March 2022**
- viii. ***Cloud GIS Model for Coastal Geospatial Big Data Analytics***, Data Science in Societal Applications([Springer Link](#)), Data Science in Societal Applications, PP 1-11, Part of the Studies in Big Data book Series, (SBD, Volume 114),DOI: 10.1007/978-981-19-5154-1_1, **September, 2022 (online)**

Seminar/Conference/FDP/Workshop Organized

- i. Organized one Two weeks ISTE workshop on “**Computer Networking**” IIT Bombay & NIT Agartala, MHRD under National Mission on Education through ICT (MHRD), Govt. of India, at NIT Agartala on 30th June to 05th July 2014.
- ii. Organised on day workshop on “**IPv6 and Emerging Technologies**” in collaboration with Dept. Of Telecommunication (DoT), Govt. of India and CSE Dept. NIT Agartala held on 19.05.2015 at NIT Agartala.
- iii. As an coordinator organized Five Days Online AICTE - ATAL Sponsored Faculty Development Program (FDP) on “**Data Science** ” by Computer Science and Engineering Department during **1st – 5th February, 2021**
- iv. As an coordinator organized Five Day Faculty Development Program (FDP) on “**Blockchain Technology and Crypto currency**” from **23rd August – 27th August 2021** by Department of Computer Science and Engineering sponsored by AICTE Training and Learning (ATAL).

Invited Lecture/Keynote Speaker/ Session Chair (Outreach Activity)

- Convener in “**Recent Trends and Applications on Green Computing, Computer Vision and Internet of Things**” in International Conference on Computational Intelligence and Internet of Things (ICCIoT 2018), National Institute of Technology Agartala, Tripura, India , 14th – 15th December 2018.
- Session as **Session Chair** in “International Conference on Computational Intelligence and Internet of Things (ICCIoT 2018)”, National Institute of Technology Agartala, Tripura, India , 14th – 15th December 2018.
- **Session Chair**, of the 2nd International Conference on Advances in Computer Engineering- ACEE 2011, 25-26 Aug, Kerala, India.
- Attended “**Executive Briefing – Flexible IT**” October 23, 2007, organized by System Solution Center, IBM India Pvt. Ltd., Bangalore, India.
- **Technical Paper Reviewer** in Students’ Conference on Engineering and Systems (SCES-2012) from March 16 to 18, 2012 at Motilal Nehru National Institute of Technology (MNNIT), Allahabad, Uttar Pradesh, India
- **Paper Reviewed** in Students’ Conference on Engineering and Systems (SCES-2012)" from March 16 to 18, 2012 at Motilal Nehru National Institute of Technology (MNNIT), Allahabad, Uttar Pradesh
- **Paper Reviewed** in “Students’ Conference on Engineering and Systems (SCES-2012)" from March 16 to 18, 2012 at Motilal Nehru National Institute of Technology (MNNIT), Allahabad, and Uttar Pradesh, India
- **Paper Reviewed** in International Journal of Advancements in Computer Science & Information Technology (IJACSIT)
- **Session Chair** in National Conference on “Assistive Technology for Persons with Disabilities”, 20-21 February, 2016, NIT Agartala, India.
- **Program Committee Member** of 2013 International Conference on Computer and Business Management (ICCBM 2013) held in Paris, June 2-3, 2013.
- **Program Committee Member** of Second International Conference of Networks and Communications (NC 2014) held in Sydney, Australia.
- Acted as **reviewer** for research papers submitted in **EDCAV 2014**, NIT Shillong, (IEEE International Conference on Electronic Design, Computer Networks & Automated Verification), 29-30th January 2015
- As a Program Committee Member of 2014 IEEE International Conference On Advances in Electronics, Computers and Communications (**ICAEECC 2014**)
- **Program Committee Member** of International Conference on Medical Imaging, m-Health and Emerging Communication Systems(**MedCom 2014**)
- **Program Committee Member** of 2015 Fourth International Conference on Software Engineering and Applications **ICASEA 2015**), January, 2-3, 2015, Zurich, Switzerland.
- **Program Committee Member** of 2015 International Symposium on Advanced Computing and Communication 2015 (ISACC 2015), Department of Information Technology, Triguna Sen School of Technology Assam University, Silchar, 14 - 15 September, 2015
- **Technical Program Committee Member** of International conference on Intelligent Information Technologies (ICIIT 2017), will be held in College of Engineering Guindy Campus, Anna University, Chennai from September 6 - 8, 2017
- **Advisory Committee Member** of International Conference on Control, Power, Communication and Computing Technologies (ICCPCT-2018) , Vimal Jyothi Engineering College, Kannur, Kerala, India, February 16th & 17th, 2018.
- **QIP fellowship**, Ministry of Human Resource Development (MHRD), Govt. of India, 2009-2011
- **Coordinator** organized Five Days Online AICTE - ATAL Sponsored Faculty Development Program (FDP) on “**Data Science** ” by Computer Science and Engineering Department during **1st – 5th February, 2021**
- **Coordinator** organized Five Day Faculty Development Program (FDP) on “**Blockchain Technology and Cryptocurrency**” from **23rd August – 27th August 2021** by Department of Computer Science and Engineering sponsored by AICTE Training and Learning (ATAL).
- **Expert Member** in the Selection Committee for appointment of Guest Teacher for Basic Computer Skill of MBB University, January 11, 2022

- Acted as **External Expert** in selection committee for selection of Junior Research Fellow for the DietY Project entitled “Development of an Intra Domain Mobility Management Scheme for Single Gateway Wireless Mesh Network to handle Highly Mobile Mesh Clients” Dept. of Computer Sc. & Engg., Tripura University, held on **9th Oct, 2015**
- Acted as **External Expert** in selection Committee for selection of Project Fellow for the UGC Project entitled “Image Processing Techniques for detection of Cervical Cancer in North East” Dept. of Information Technology., Tripura University held on **7th October, 2015**
- Acted as **External Committee Member** for the Syllabus review Board of Public Service Commission.
- Acted as **External Expert Advisor** for the interview at Tripura Public Service Commission held on **4th Oct, 2015**
- Acted as Selection Committee **Expert Member** for appointment to the post of Laboratory Assistant & Technical Assistant (Group-C, Non Teaching) at Tripura University.
- Acted as **Reviewer** for research papers submitted in 2nd Students’ Conference on Engineering and Systems, **SCES 2013**, MNNIT Allahabad.
- Acted as **Reviewer** for research papers submitted in British Journal of Mathematics & Computer Science.
- Acted as **Project Evaluator** for MCA and BCA programmes at IGNOU RCL (2600), Agartala RC.
- Delivered invited lectures as an **Expert Speaker** on the topic “**Computer Networking**” on **26th September, 2010** at Narayana Engineering College, Kanpur, Uttar Pradesh
- Delivered invited lectures as an **Expert Speaker** in **TEQIP-II** sponsored 5 days Faculty Development Program on “**Advanced Data Mining**” held from October 6-10, 2013 at Tripura Institute of Technology, Narsingarh.
- Delivered invited lectures as an **Expert Speaker** in **TEQIP-II** sponsored 5 days Faculty Development Programme on “**Advanced Software Engineering**” held from September 26-30, 2014 at Tripura Institute of Technology, Narsingarh.
- Delivered invited lectures as an **Expert Speaker on a workshop “Sustainable Development in Rural Areas”** sponsored by **TEQIP-II**, March 04-05, 2016 at NIT Agartala.
- Presented paper on “**Role of Information Technology in Rural Sector for Sustainable Development**” organised by Institute of Engineers (Comilla) IEB Centre & Institute of Engineers (India) IEI, Tripura State Centre. 19th May, 2017
- Delivered **Keynote Speech** in the Seminar Programme of Computer Engineering Division of Institute of Engineers (India) Tripura State Centre on the topic “**Applications and future of IOT in daily life**” & “**Smartphone Based Low cost Virtual Reality Systems- an augmented interaction**” on **27th August, 2016** at Seminar Hall of IEI , Tripura State Centre at Agartala.
- Delivered **Presidential Speech** in the Seminar Programme of Computer Engineering Division of Institute of Engineers (India) Tripura State Centre on the topic “**Computational Intelligence in the Present Era**” & “**e-paper Technology**”, on **21st January, 2017** at Seminar Hall of IEI , Tripura State Centre at Agartala.
- Delivered invited Lecture as an **Expert Speaker** in the Seminar Programme on Celebration of 49th Engineers day organized by Tripura University and of Institute of Engineers (India) Tripura State Centre on the topic of “**Sensor Network: Research and Latest Trends**” on **14th September 2016** at Conference Hall Tripura University, Suryamani Nagar.
- Delivered **Expert Lecture** in the seminar cum workshop on Cyber Security & Cyber Forensic on **22nd March, 2018** at Progya Bhawan, Agartala, Tripura.
- Delivered Expert Lecture as **Resource person** in the **two days National Seminar on Intelligent Systems** at NIT Manipur on **28th Feb, and 1st March, 2019**.
- Delivered Expert Lecture as **Resource person** in the **five days National Seminar on “Value Analysis”** at NIT Agartala on **28th May, 2019**.
- **As a Technical Program Committee Member & Reviewer** of International Conference on Intelligent Information Technologies (ICIIT 2017), held in College of Engineering Guindy Campus, Anna University, Chennai.
- **As a Advisory Committee Member** of International Conference on Control, Power, Communication and Computing Technologies (ICCPCT-2018) , Vimal Jyothi Engineering College, Kannur, Kerala, India,
- **As a Question paper setter** of Vivekanandha College of Engineering for Women (VCEW), Tiruchengode
- Delivered lecture as **Resource Person** for the Webinar “**Distance and Online Education in the backdrop of COVID-19: Issues and Challenges**”, organised by Regional Computer Lab (RCL), Agartala Regional Centre, IGNOU, on **19th July 2020**.

- Delivered **expert lecture** on “**Open and Distance Learning (ODL) programmes and IGNOU**” for the Webinar conducted by Regional Computer Lab of IGNOU, Agartala Regional Centre on 22nd August 2021.
- Delivered **Expert Lecture** in **One-week Faculty Development Program** on “**IOT (Internet of Things):Past, Present, & Future** on the topic “**IoT Based Recent Research: Challenges and Future Prospects**” during 2nd - 7th September, 2021 organised by B P Poddar Institute of Management & Technology, Kolkata, India.
- Delivered **Expert Lecture** on “**Human Values and Ethics**” in a five day FDP under ATAL Academy during 23rd Aug to 27th Aug, 2021 organised by Department of Computer Science and Engineering, NIT Agartala.
- Delivered **Expert Lecture** on “**Enterprise Resource Planning Implementation**” in a five day FDP under ATAL Academy on Management Information System during 8-12 February, 2021 Agartala, Tripura.
- Delivered **Expert Lecture** in **One day webinar** on “**Dissemination of Best Practices in use of Technology**” on 3rd November, 2021, organized by KTDS Police Training Academy.
- Delivered **Expert Lecture** on **Webinar** on “**Vigyan Utsav**” (Science Festival) as a part of "Azadi Ka Amrit Mahotsav' held on November 10, 2021 on the theme **R&D Infrastructure** on 3rd September, organised by Tripura State Council for Science & Technology Agartala, Tripura.
- Acted, to **External Examiner** for PhD thesis titled, “**Automatic Classification of Kidney Diseases and Oral Types and Anomalies using Ultrasound Images and Orthopantomogram Radiography Images based on Hybrid Neural Networks and Deep Learning**”, by Ms. Anuradha laishram (Enrolment No.: 14PCS004), Department of Computer Science and Engineering for the award of the Degree of Doctor of Philosophy. NIT Manipur
- Acted as an **External Examiner** to evaluate the Ph.D. thesis of the research scholar, **Gurwinder Singh**, entitled "**Enhancing performance of task tracker for hadoop in heterogeneous environment**". Lovely Professional University, Phagwara, Punjab-144411
- Acted as an **External Examiner** for the Ph.D thesis titled “**Sentimental Analysis and Modeling Based on Artificial Intelligence over Cloud Big Data**”. in Computer Science, MUIT, Lucknow for Ph.D. submitted by :Mr. Saroj Kumar., Maharishi University of Information Technology, Lucknow
- Acted as an **external Examiner** for PhD thesis titled “**Design of Secured Data Management Framework for Internet of Things**” submitted by Mr Abhijit H V, Visvesvaraya Technological University , Jnana Sangama, Belagavi- 590 018, Karnataka State, India., **9th February 2022**
- Acted as an **External Examiner** for Ph.D thesis titled “**Energy Efficient Techniques for Cyber Physical Systems**” submitted by Umapathi G R (1VA13PEN05), Visvesvaraya Technological University , Jnana Sangama, Belagavi- 590 018, Karnataka State, India., **12th December, 2022**
- Acted as an **External Examiner** for Ph.D thesis titled “**Leveraging Multi-objective Evolutionary Algorithms for QoS in Fog Computing Environment**” submitted by Saeed Abdulqader Saeed al-Amodi, Kalinga Institute of Industrial Technology Deemed to be University, Bhubaneswar, **2nd Januarcy, 2023**
- **External Examiner** for final Ph.D, viva voce examination , Thesis titled : “**MACHINE LEARNING APPROACH FOR DETECTION OF ATTACKS IN WIRELESS SENSOR NETWORKS**” NERIST a Deemed University, Arunachal Pradesh
- Acted as Subject Expert in selection Committee for selection of Associate Professor, Programmer and Information Scientist, Dept. of CSE, Manipur University held on 23-24 September, 2024
- Delivered **expert lecture** in the AICTE Training and Learning (ATAL) Faculty Development Program on 10th September 2024 at Gomati District Polytechnic
- Invited as **Guest of Honour** in the 2 Day State Level Awareness Workshop, Capacity Building and Training on e-Governance Standards and Guidelines organized by C-DAC, Pune and STQC New Delhi on December, 20, 2024 at Agartala.
- Delivered invited Lecture as an **Expert Speaker** in the Three days' Workshop on Empowerment of Handicraft Artisans Using Ensemble Technologies on "**Applications on Blockchain Technology**" funded by IBITF, IIT Bhilai on 11th November 2024 at Tripura University.
- Delivered invited Lecture as an **Expert Speaker** on the topic "**Cyber Security Standards & Guidelines**" in the 2 Day State Level Awareness Workshop, Capacity Building and Training on e-Governance Standards and Guidelines organized by C-DAC, Pune and STQC New Delhi at Agartala on December 20th, 2024.

Patent : Published(04) /Granted (04) : 08

1. Ashim Saha, **Mrinal Kanti Deb Barma**, and Sharmistha Majumder, ‘**An Electronic System for Writing using Conventional Accessories**’, Application No.202031000360 A, Published on **9th July, 2021**.
2. Munesh Chandra Trivedi, **Mrinal Kanti Deb Barma**, Anupam Jamatia, Nandita Goyal, Vikash Somani, Soumya Trivedi “**NOVEL FACE DETECTION TECHNIQUES FOR SECURITY SURVEILLANCE UNDER OCCLUDED FACE IMAGES**”, Published on **15th April, 2022** Application No.202231013211 A
3. **Mrinal Kanti Deb Barma**, Dr. Munesh Chandra Trivedi, Dr. Harivans Pratap Singh, Dr. Brajesh Kumar Singh, Dr. Sheo Kumar “**Disposable box to curb pollution**” Application No.202231050980 A, Published on **7th October, 2022**
4. Dr. Munesh Chandra Trivedi , Dr. Jhunu Debbarma, **Mrinal Kanti Deb Barma**, Dr. Harivans Pratap Singh, “**Method for semantics-based search clustering**” Application No.202231066523 A, Published on **2nd December, 2022**
5. Dr. Munesh Chandra Trivedi , Ms. Nandita Goyal, **Mrinal Kanti Deb Barma**, Mr. Prashant Bhardwaj, “**Smart Stand for Sun Tracking Solar Panel**” Design No. 378654-001, **Granted** on 04/02/2023.
6. Dr. Munesh Chandra Trivedi, Dr. Tarun Shrimali, Dr. Mrinal Kanti Deb Barma.Dr. Anil Kumar Dubey, Mrs. Manjhal Sarangdevot “**SMART VEHICLE OCCUPANCY MONITORING DEVICE**” Design No. 389892-001, **Granted** on 09/07/2023.
7. Dr. Munesh Chandra Trivedi, Dr. Renu Rathore, Dr. Mrinal Kanti Deb Barma.Dr. Anil Kumar Dubey, “**SMART VEHICLE OCCUPANCY MONITORING DEVICE**” Design No. 6335007, **Granted** on 08/01/2024.
8. Dr. Tarun Shrimali, Dr. Mrinal Kanti Deb Barma.Dr. Mrs. Manjhal Sarangdevot, Dr. Yuvraj Singh, Dr. Shivani Shrimali “**CHILD SAFETY SEAT WITH ENERGY ABSORBER**”, Design No. 389495-001, **Granted** on 03/07/2023.