Prof. Mrinal Kanti Deb Barma, FIE(I)
Professor & Former Head
Department Computer Science and Engineering,
Associate Dean Faculty Welfare
Associate Nodal Officer Social Media
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 (24 years+)
- Research experience (15 years+)
- Industry experience (5 Years)

Current Research Interest

- MANET Routing Protocols, Wireless Sensor Networks, Vehicular Ad hoc Network, Internet of Things, 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)*
- Member of DPPC of CSE Department

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, 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, 2017-2018.

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)*
- *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)

- **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 Agarala 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

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. Mr. Bidyut Dutta (Part Time)
5. Mrs. Purabi Debbarma (Part Time)
6. Ms. Jwell Debnath(FTSS)

M.Tech. & MCA Projects:

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** (Enrolment No:21PCS003)
Title : Depression Detection using LSTM and CNN Ensemble Method from Social Media Posts
Awarded on May 2023

MCA Project

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
   2023

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: 33
- International Conference: 38
- National Conference: 09
- Books: 02
- Book Chapters: 06

International Journals: 33

i. Rajib Chowdhuri, **M K Deb Barma** "Node position estimation based on optimal clustering and detection of coverage hole in wireless sensor networksusing hybrid deep reinforcement learning", The Journal of Supercomputing, June, 2023, Volume 79, pages 20845–20877, (2023) (**SCI** I.F 3.3)
ii. 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)
iii. 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

iv.   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

v.   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

vi.   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.

vii.   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

viii.   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 19-01-2022Yet to PublishAbstract available at [http://www.oldcitypublishing.com/journals/ahswn-home/ahswn-forthcoming-papers/]

ix.   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-24-1-3133available 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)

x.   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-23-1-2815available 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

xi.   Smita Das**, M. K Deb Barma, "** Computational geometry based coverage hole-detection and hole-are estimation in wireless sensor network." Journal of High Speed Network, Vol. 24, no. 4, pp. 281-296, 2018**. DOI:** 10.3233/JHS-180595 **(Scopus)**.

xii.   Mili Dhar RS CSED: 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

xiii.   Mili Dhar RS CSED: 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

xiv.   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]

xv.   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

xvi.   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.aeue.2019.05.026, Vol. 108, Page:** 36-44, 2019

xvii.   **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,

xviii.   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

xix.   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)

xx.   **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, ISSSN. 2250-3757, April 2015

xxi. **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,

xxii. 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.

xxiii. 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.

xxiv. 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.

xxv. 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

xxvi. 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

xxvii. **M. K. Debbarma**, S K Sen, and Sudipta Roy. DVR-Based MANET routing protocols Taxonomy. *International Journal of Computer Science & Engineering Survey (IJCSES)* ISSN : 0976 – 2760 [Online]; 0976 - 3252 [Print], Vol 3, No. 5, PP- 51-69, October 2012, DOI : 10.5121/ijcses.2012.3504

xxviii. **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

xxix. **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

xxx. **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.

xxxi. **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

xxxii. 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.

xxxiii. 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: 38

i. 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,

ii. 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

iii.   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

iv.   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.

v.   Sharmistha Majumder, **M K Deb Barma,** and Ashim Saha, 'Deep Learning Based Sleep Detector Sensor Prototype for Avoiding Road Traffic Accident', ICCIIoT 2018.

vi.   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.

vii.   Rajib Chowdhuryi, **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

viii. **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

ix.   **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

x.   **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

xi.   **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

xii.   **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(Spriger)

xiv.   **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) (Spriger), Singapore, **(Scopus),**

xv.   **M. K. Deb Barma et al.** **"***Energy Efficient Weight Based Clustring 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

xvi.   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

xvii. 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), Medicaps Group of Institution, Indore, Madhya Pradesh during, **March 18 - 19, 2016,** DOI 10.1109/CDAN.2016.7570928, PP- 105-112

xviii. **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

xix.   **M. K. Deb Barma**, Sudeshna Das, *"Data Gathering Mechanismof 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 10.1109IOTA.2016.7562760, PP-401-405.

xx. **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

xxi. **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.

xxii. **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

xxiii. **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.

xxiv. 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.

xxv. **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

xxvi. 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

xxvii. 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.

xxviii. 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.

xxix. **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.

xxx. **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 .

xxxi. 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.

xxxii. 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.

xxxiii. **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.

xxxiv. 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 .

xxxv. 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), April6-8, 2012, ISBN: 978-1-4673-1850-1/12, Page No. 468-472,Kanyakumari,India.

xxxvi. **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.

xxxvii. N.P Sing, **M.K. Debbarma**, R. Mishra, and S. Sachan*"The Review: Lifecycleof Object-Oriented Software Testing "* 3rd **IEEE** International Conferenceon Electronics Computer Technology (IEEE ICECT 2011), 8-10,April- 2011,Vol.3,Page no.52-56,ISBN 978-1-4244-8679-3,Kanyakumari, India.

xxxviii. 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 clusterbased 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 Agartrala.

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 Gurunanak 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, MHRDunder 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 (ICCIIoT 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 (ICCIIoT 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 Peris, 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 (**ICAECC 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 (ICCPCCT-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 Speakeron 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.
- Delivere**d Presidential Speech** in the Seminar Programme of Computer Engineering Division of Institute of Engineers (India) Tripura State Centre on the topi**c *"Computational Intelligence in the Present Era" & "e-paper Technology"*,** on ²¹ˢᵗ January, 2017 at Seminar Hall of IEI , Tripura State Centre at Agartal**a**.
- 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 (ICCPCCT-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" d**uring 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 Eexaminer** 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 Janujary, 2023**

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 Barm,** Anupam Jamatia, Nandita Goyal, Vikash Somani, Soumya Trivedi **"Novel Face Detection Techniquesfor Security Surveilance 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. 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.

8. Dr. Munesh Chandra Trivedi, Dr. Renu Rathore, **Dr. Mrinal Kanti Deb Barma,**Dr. Anil Kumar Dubey, "**Solar Security Camera System**" Design No. 6335007, **Granted** on 08/01/2024.