Curriculum Vitae

Name : Dr. Parijata Majumdar

Address for Communication: Krishnanagar, Natunpalli, Agartala,Tripura (West), **Pin:**799001.

ORCID iD: https://orcid.org/0000-0002-2324-7685

Research Gate: https://www.researchgate.net/profile/Parijata-Majumdar

Google Scholar: https://scholar.google.co.in/citations?user=HYuZPtsAAAAJ&hl=en

Web of Science ResearcherID : JGM-2672-2023. **SCOPUS ID :** 57203280468

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Contact No: 7005019955, 9402169379

Educational Qualification Details:

Examination	Name of the Board /University	Year of passing	Percentage of marks/CGPA	Division/ Class/Grade
Madhyamik	Tripura Board of Secondary Education	2010	70.29	First
Diploma in Computer Science in Technology	Women's Polytechnic, Hapania affiliated under Tripura University	2013	82.70 (in CGPA)	A
B.E in Computer Science in Engineering	TIT, Narsingarh affiliated under Tripura University	2016	79.20 (in CGPA)	B
M.Tech in Computer Science in Engineering (Gold Medalist)	Tripura University	2018	8.97 (in CGPA)(Gold Medalist)	O
Ph.D (Computer Science and Engineering)	NIT Agartala	2023 (31st October)	NA	NA

MOOCs/SWAYAM/FDP/ On-line Courses attended:

Name of the Course/ School	Place	Duration with period	Trainer /Agency
Computational Intelligence	Online (Agartala)	03/01/2022 to 07/01/2022 (5 days)	AICTE Training And Learning (ATAL) Academy, NIT Agartala
Joy of Computing using Python	Online (Agartala)	Jul-Oct, 2019 (12 weeks)	NPTEL (IIT Madras), MHRD, Govt. of India
Internet of Things and Sensor Networks	Tripura Institute of Technology, Narsingarh	3rd-16th Jan,2020 (2 weeks)	TEQIP- III
Recent Trends and Research Opportunities in Engineering and Technology	Techno College of Engineering Agartala (TCEA)	10th -14th July, 2023 (5 day)	Electrical and Computer Engineering Department, TCEA
Contrast Enhancement in Poor Visibility	Tripura University	5th -9th March, 2018	(Expert Speaker- Dr. John Peter Oakley) Global Inititiative of Academic Networks
Image and Video Forensics	Tripura University	12th -16th March, 2018	(Expert Speaker- Prof. Nasir Memon) Global Inititiative of Academic Networks
Enterpreneurship Skills Development Using Open Access Resources	Tripura Institute of Technology, Narsingarh	21st-22nd Jan,2015	TEQIP- II
Security aspects of Internet of Things (IoT) based Eco System	Tripura University	04/12/2023 to 09/12/2023	AICTE Training And Learning (ATAL) Academy
Research Paedogogy and Contemporary Research	ST MARTIN'S ENGG. COLLEGE	26th-28th June, 2024	Research and Development Cell, ST Martin's Engg. College
Intellectual Property Rights in the age of AI, ML, CyberSecurity and Blockchain	Mangalmay Institute of Management & Technology, Gr. Noida	24th June – 28th June 2024.	The Department of Computer Applications, Mangalmay Institute of Management & Technology, Gr. Noida

EXPLORING COMPUTATIONAL INTELLIGENCE (ONLINE)" .	School of Computer Science and Engineering, VIT-AP University, Amaravati	16th July 2024 to 20th July 2024	VIT-AP University, Amaravati
Communication, Signal Processing and Recent Technologies for Different Applications	Department of Electronics and Communication Engineering, Budge Budge Institute of Technology Kolkata, India	22nd Oct 2024 to 28th Oct 2024	Budge Budge Institute of Technology Kolkata, India
Half Day Workshop on Institute Development		Nov. 23, 2024	Indian Institute of Information Technology Dharwad, Karnataka, India.
IOT IN FOCUS: EMERGING TRENDS AND REAL-WORLD CHALLENGES	ONLINE FACULTY DEVELOPMENT PROGRAM on "IOT IN FOCUS: EMERGING TRENDS AND REAL-WORLD CHALLENGES"	20.01.2025 to 25.01.2025	Sri Sai Ram Engineering College

PhD :

Successfully awarded PhD with thesis name titled "Design and Development of AI Approaches for Precision Agriculture Applications" in NIT, Agartala, under the guidance of Dr. Diptendu Bhattacharya, Associate Professor, NIT Agartala on 31st October, 2023.

Research Interest: Machine Learning, Optimization Techniques, Internet of Things, Green Internet of Things (GIoT), Precision Agriculture, Image Processing, Pattern Recognition, Blockchain Technology.

Working Experience Profile:

Serving as Regular **Assistant Professor** in Computer Science and Engineering in Techno College of Engineering Agartala (TCEA), since 2nd February, 2018. Serving as an **Associate Professor** in Computer Science and Engineering in Techno College of Engineering Agartala (TCEA) since November, 2023. Serving as an **Assistant Professor (Contractual)** in Indian

Institute of Information Technology, Agartala (IIITA) since August, 2024. Serving as an **Assistant Professor** in Tripura University since June, 2025.

Responsibilities fulfilled under CSE Department, TCEA:

Admission Team member, Placement Coordinator, Departmental Event Coordinator, NAAC Student Support and Regression Team member, CSE (AIDS) branch coordinator, In charge of News letter Preparation, Coding Club coordinator, CSI Student Chapter Coordinator, Anti Ragging Squad Member.

Responsibilities under CSE Department, IIITA:

Managing Social Media Page, Academic Section, FIC(Exam), Magazine, Stock Management, Nodal officer for spreading awareness related to awareness in JEEMAIN, NEET,CCMT and CSAB.

Personal Details:

Date of Birth: 20th Dec, 1993.

Father's Name: Prasanta Kumar Majumdar (Retd. IPS Officer).

Mother's Name: Uma Choudhury (Retd. Asst. Head Mistress).

Sex: Female

Marital Status: Married

Spouse Name: Dr. Sayan Kumar Das (DNB, Paeditrics)

List of Publications:

1. Majumdar, P., Diptendu Bhattacharya, D., & Mitra, S. et al. Demand prediction of rice growth stage-wise irrigation water requirement and fertilizer using Bayesian genetic algorithm and random forest for yield enhancement. Paddy and Water Environment 21(2), 275-293, (2023). (SCIE Indexed, IF: 2.2). https://doi.org/10.1007/s10333-023-00930-0

2. Majumdar, P., Bhattacharya, D., Mitra, S. Prediction of Evapotranspiration and Soil Moisture in Different Rice growth stages through improved salp swarm based Feature Optimization and Ensembled Machine Learning algorithm. Theoretical and Applied Climatology (2023). (SCI Indexed, IF: 3.4). https://doi.org/10.1007/s00704-023-04414-3.

3. Majumdar, P., Bhattacharya, D., & Mitra, S. et al. Application of Green IoT in Agriculture 4.0 and Beyond: Requirements, Challenges and Research Trends in the Era of 5G, LPWANs and Internet of UAV Things. Wireless Personal

Communications (SCIE Indexed, IF: 2.2), (2023). https://doi.org/10.1007/s11277-023-10521-1

4. Majumdar, P., Mitra, S. & Bhattacharya, D. Honey Badger algorithm using lens opposition based learning and local search algorithm. Evolving Systems (2023) (SCIE Indexed, IF: 3.2). https://doi.org/10.1007/s12530-023-09495-z

5. Majumdar, P., Bhattacharya, D., & Mitra, S. et al. An improved binary grey wolf optimizer for constrained engineering design problems. Expert Systems (2023) (SCIE Indexed, IF: 3.3). https://doi.org/10.1111/exsy.13458

6. Majumdar, P., Bhattacharya, D., & Mitra, S. Data Aggregation Methods for IoT Routing Protocols: A Review Focusing on Energy Optimization in Precision Agriculture. ECTI Transactions on Electrical Engineering, Electronics, and Communications, 339–357, 20(3), (2022). (SCOPUS Indexed). https://doi.org/10.37936/ecti-eec.2022203.247511

7. Majumdar, P., Mitra, S. and Bhattacharya, D. IoT for promoting agriculture 4.0: a review from the perspective of weather monitoring, yield prediction, security of WSN protocols, and hardware cost analysis. Journal of Biosystems Engineering, 46(4), 440-461. (2021). (SCOPUS Indexed). https://doi.org/10.1007/s42853-021-00118-6

8. Majumdar, P., Bhattacharya, D., Mitra, S. and Manshahia, M.S. Machine learning algorithms to improve crop evapotranspiration prediction covering a broad range of environmental gradients in agriculture 4.0: a review. Human-Assisted Intelligent Computing: Modeling, simulations and applications. (SCOPUS Indexed). (2023). https://iopscience.iop.org/book/edit/978-0-7503-4801-0/chapter/bk978-0-7503-4801-0ch1

9. Majumdar, P., Mitra, S., Bhattacharya, D. Green IoT for Smart Agricultural Monitoring: Prediction Intelligence With Machine Learning Algorithms, Analysis of Prototype, and Review of Emerging Technologies. Handbook of Intelligent Computing and Optimization for Sustainable Development (Willey Online Library) . 637-653, (2023). https://doi.org/10.1002/9781119792642.ch29

10. Majumdar, P., Mitra, S. and Trivedi, M.C. An Empirical Review of IoT based Smart Irrigation Techniques and Monitoring of Related Environmental Parameters. 978-981-33-6392-2. Lecture Notes in Electrical Engineering (Springer, Singapore). 740, (2021). https://doi.org/10.1007/978-981-33-6393-9_34

11. Majumdar, P., Mitra, S. and Trivedi, M.C., 2021. IoT-Based Smart Irrigation and Related Environment Parameters Monitoring: An Empirical Review. (Trends in Wireless

Communication and Information Security: Proceedings of EWCIS) (SCOPUS Indexed).. 333-340, (2020). https://link.springer.com/chapter/10.1007/978-981-33-6393-9_34

12. Majumdar, P., Das, K., Nath, N. and Bhowmik, M.K., 2018, June. Detection of Inflammation from temperature profile using Arthritis knee joint Datasets. In 2018 IEEE International Conference on Healthcare Informatics (ICHI) (409-411). https://doi.org/10.1109/ICHI.2018.00077

13. Majumdar, P. and Debbarma, J., Detection and Removal of Infrared (IR) Image Noise Patterns: An Experimental Case Study of Knee Thermograms. International Journal of Computational Intelligence & IoT, 1(2) (2018). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3354734

14. Majumdar, P., Mitra, S., Kumar Das, S. and Majumdar, P., 2023. Performance analysis of fractal image compression methods for medical images: a review. Human-Assisted Intelligent Computing: Modeling, simulations and applications. 15-1 (2023). https://ui.adsabs.harvard.edu/abs/2023hicm.book...15M/abstract
15. Majumdar, P., Mitra, S., and Mirjalili, S., Whale Optimization Algorithm - Comprehensive Meta Analysis on Hybridization, Latest Improvements, Variants and Applications for Complex Optimization Problems. Handbook of Whale Optimization Algorithm. (2024). (SCOPUS Indexed). https://doi.org/10.1016/B978-0-32-395365-8.00012-9
16. Majumdar, P., Acharjee, D., Crop yield and soil moisture prediction using machine learning algorithms. Machine Learning Applications: From Computer Vision to Robotics. (2023). (SCOPUS Indexed).
17. Majumdar, P., Dey, S., Bardhan, S. and Mitra, S., 2022. Support Vector Machines for the Classification of Remote Sensing Images: A Review. Synergistic Interaction of Big Data with Cloud Computing for Industry 4.0. Taylor and Francis. 175-180 (2022). https://www.taylorfrancis.com/chapters/edit/10.1201/9781003279044-12
18. Majumdar, P., Mitra, S., Bhattacharya, D., Utilities of 5G Communication Technologies for Promoting Advancement in Agriculture 4.0: Recent Trends, Research Issues and Review of Literature. 5G and Beyond. Springer Tracts in Electrical and Electronics Engineering book series (STEEE). (2023). https://doi.org/10.1007/978-981-99-3668-7_6
19. Majumdar, P. et al. SVM for Remote Sensing Images (p.59) In book: Synergistic Interaction of Big Data with Cloud Computing for Industry 4.0. CRC Press. 2022.
20. Majumdar, P. et al. Medical Image Processing using Image Segmentation Techniques (p.7) In 1st International Conferences on Machine Intelligence and System Sciences

21. Majumdar, P. et al. Deep Learning Techniques for Medical Image Segmentation- A Review (p.8) In 1st International Conferences on Machine Intelligence and System Sciences
22. Majumdar, P. et al. Weather Prediction with Machine learning (p.47) In 1st International Conferences on Machine Intelligence and System Sciences
23. Majumdar, P. et al. Machine Learning Applications to detect Heart Disease (p.1) In 1st International Conferences on Machine Intelligence and System Sciences
24. Majumdar, P. et al. Deep EfficientNet-B0 based Convolutional Neural Network Architecture optimized using Grey Wolf Optimizer for COVID-19 detection from Chest X-Ray Images. Accepted for Publication in International Conference on Advanced Network Technologies and Intelligent Computing.
25. Majumdar, P. et al. A Novel Enhanced Binary Grey Wolf Optimizer Combining Mutualism and Exponential Decay Function for Feature Selection. Accepted for Publication in Evolving Systems. (SCIE Indexed, IF: 3.2), 2023.
26. Majumdar, P. et al. Business Transformation using Big Data Analytics and Artificial Intelligence. Accepted for publication in the book titled Data Analytics and Machine Learning - Navigating the Big Data Landscape. Springer. (SCOPUS Index), 2023.
27. Majumdar, P. et al. Soil Moisture Simulation of Rice using Optimized Support Vector Machine for Sustainable Agricultural Applications. Sustainable Computing: Informatics and Systems. (SCIE Indexed, IF: 4.4), 2023. https://doi.org/10.1016/j.suscom.2023.100924
28. Majumdar, P. et al. Blockchain Technology for Society 4.0: A Comprehensive Review of Key Applications, Requirement Analysis, Research Trends, Challenges and Future Avenues. Publi in Cluster Computing. (SCIE Indexed, IF: 4.9), 2024. https://doi.org/10.1007/s10586-024-04337-2

29. Majumdar, P. et al. Salp Swarm Algorithm based Hyperparameter-Optimized Deep Efficient-Net for Detection of COVID-19 in Chest X-Ray. In Advances in Optimization Algorithms for Multidisciplinary Engineering Applications: From Classical Methods to AI-Enhanced Solutions." In Springer. (SCOPUS Index), 2023.
30. Majumdar, P. et al. Prediction of Bitcoin Price based on Optimized Support Vector Regression using Modified Grey Wolf Optimizer. In Advances in Optimization Algorithms for Multidisciplinary Engineering Applications: From Classical Methods to AI-Enhanced Solutions." In Springer. (SCOPUS Index), 2023.
31. Majumdar, P., Mitra, S., Bhattacharya, D. et al. Enhancing sustainable 5G powered agriculture 4.0 : Summary of low power connectivity, internet of UAV things, AI solutions and research trends. Multimed Tools Appl (2024). https://doi.org/10.1007/s11042-024-19728-1 (SCIE).

32. Majumdar, P. and Mitra, S., 2024. Enhanced honey badger algorithm based on nonlinear adaptive weight and golden sine operator. Neural Computing and Applications, pp.1-20. https://doi.org/10.1007/s00521-024-10484-9

33. Majumdar, P., Mitra, S. Salp Swarm Algorithm using Lens Opposition based Learning and Local Search Algorithm. International Conference on Advanced Communications and Machine Intelligence. (SCOPUS), **PUBLISHED.**

34. Majumdar, P., Mitra, S., Oliva, D., Rodrigues, L.R. An Enhanced Position Updating Strategy for Salp Swarm Algorithm to Solve Global Optimization Problems. Accepted in book "Artificial Intelligence and Machine Learning algorithms for Engineering Applications". (SCOPUS), ACCEPTED.
35. Majumdar, P., Mitra, S., Bhattacharya, D. "A REVIEW ON COMPUTATIONAL INTELLIGENCE BASED RECOMMENDER SYSTEMS: RECENT PROGRESS, APPLICATIONS, CHALLENGES AND NEW FUTURE RESEARCH AVENUES". Advanced Intelligence Methods for Data Science and Optimization (2024). Elsevier.

36. Debroy, P., Smarandache, F., Majumder, P., Majumdar, P., Seban, L. OPA-IF-Neutrosophic-TOPSIS Strategy under SVNS Environment Approach and its Application to Select the Most Effective Control Strategy for Aquaponic System. INFORMATICA (SCIE, IF: 3.3), PUBLISHED. https://doi.org/10.15388/24-INFOR583

    Original link of journal paper:
    https://informatica.vu.lt/journal/INFORMATICA/information/for-referees

37. Kaushik, H., Majumdar, P., Singh, H.V. Scrape Track: A Cutting-Edge Secured E-Commerce Web Application to Monitor Product Price Fluctuations, Journal of Technology, p:70-83. DOI:18.15001/JOT.2024/V12I12.24.994. (Scopus)

38. Goyal, A., Majumdar, P., Alam, A., Gupta, H., Vashisht, S. JournAI – A Secured Travel Itinerary Generation System for Personalized and Efficient Travel Planning, Journal of Technology , p: 49-69. DOI:18.15001/JOT.2024/V12I12.24.993. (Scopus)

39. Arijita Bhowmik, Somen Debnath, R. Chawngsangpuii and Parijata Majumdar "A ring signature based task matching schema for crowd sourcing environments", Journal of Technology , p: 865-875. DOI:18.15001/JOT.2024/V12I12.24.1133. (Scopus)

40. Vrince Vimal, Vikas Raina, Azzah AlGhamdi, Parijata Majumdar, Mohammad Shabaz, G Siva Nageswara Rao, Divya Nimma, Ismail Keshta and Mukesh Soni, "Certificate-Less Healthcare Signature Scheme for Secure Consumer Technology-Centric Wireless Medical Sensor Devices" IEEE Transactions on Consumer Electronics (2025). DOI: 10.1109/TCE.2025.3547264

41. Majumdar , P., Das, S., Roy, S., “Metaverse as a Transformative digital Ecosystem: A Comprehensive Review of applications, challenges, societal implications and future avenues” Information Systems Frontiers (SCIE, IF: 6.9) (2025).

42. Sanjoy Mitra, Parijata Majumdar, and Nirankita Debnath, “Grey Wolf Optimization Based Hyper-Parameter Optimized Deep EfficientNet for Chest X-Ray Based Detection of COVID-19.”. Third International Conference, ANTIC 2023, Varanasi, India, December 20–22, 2023, Proceedings, Part II, Pg. No. 337-356 (Springer).

43. Sanjoy Mitra , Parijata Majumdar , Diptendu Bhattacharya and Srijan Roy. **“**A Comprehensive Analysis of Artificial Intelligence Methods to Detect COVID-19 from Chest X-rays and CT Scans”. Emerging Trends and Technologies on Intelligent Systems. Proceedings of 4th International Conference ETTIS 2024. ISBN: 978-981-97-5702-2

44. Parijata Majumdar et al. “Salp Swarm Algorithm using Lens Opposition based Learning and Local Search for Solving Constrained Optimization Problems” Iran Journal of Computer Science. https://doi.org/10.1007/s42044-025-00241-z

45. Parijata Majumdar et al. “Metaverse as a Transformative digital Ecosystem: A Comprehensive Review of applications, challenges, societal implications and future avenues” Submitted to Wireless Personal Communication

46. Parijata Majumdar et al. “Leveraging AI and Blockchain for Transforming Industries: A critical review” Submitted to Annals of Operation Research.

47. Parijata Majumdar “Spiking Neural Networks : A Comprehensive Review of Diverse Applications, Research Progress, Challenges and Future Research Directions” Submitted to Evolving Systems

48. Diptendu Bhattacharya, Subhradip Das, Parijata Majumdar “Deep YOLO 11: A Multiscale Feature Fusion Approach for Feature Extraction from Radiological images”. IEEE ICAIET Conference 2025.

49. Diptendu Bhattacharya, Parijata Majumdar, Subhra Prakash Puhan, Subhradip Das, “Early Detection of Autism Spectrum Disorder Using Support Vector Machine and a modified Grey Wolf Optimizer” . IEEE CIACON Conference 2025.

50. Diptendu Bhattacharya, Parijata Majumdar, Pratishruti Barua, Subhradip Das, “Plant Disease Detection using CNN-BiLSTM Model” . IEEE ICAIET Conference 2025.

51. MetaCast: A Framework for Simulating Risk Associated With Drug Delivery During Treatment. Submitted to IEEE Transactions on Molecular, Biological, and Multi-Scale Communications.

52. Parijata Majumdar, Sanjoy Mitra, Debashis De, "An Effective Crop Recommendation System using A Dynamic Salp Swarm Algorithm with Adaptive Weighting based LSTM Network" SN Computer Science.

53. Hariom Gupta, Parijata Majumdar, Alvaro Rocha, "Recipe Vision: A Machine Learning Approach for Pedagogical Food Image Analysis and Image-to-Recipe Generation". Submitted to Machine Learning based Approaches for Pedagogical Data Analysis. Taylor and Francis Group CRC Press.

54. Abhijeet Kashyap, Parijata Majumdar, Diego Oliva Navarro, "A Machine Learning Approach to Recommendation System for Educational Data Analysis". Submitted to Machine Learning based Approaches for Pedagogical Data Analysis. Taylor and Francis Group CRC Press.

55. Parijata Majumdar, Modified Salp Swarm Algorithm with Adaptive Weighting Based Bidirectional LSTM Network Ensemble Method for Crop Recommendation. DOI: 10.62762/TSEL.2025.947593. IECE Transactions on Swarm and Evolutionary Learning, Volume 1, Issue 1, 2025: 3-11.

56. Subhradip Das, Parijata Majumdar "Early Pneumonia Detection from Chest X-ray Images Using Machine Learning Models Optimized using Honey Badger Algorithm". Submitted to Soft Computing Journal (SCIE).

57. Majumdar, P. et al. "Exhaustive WhatsApp Chat Data Analysis using modified Random Forest based on Kappa Pruning" Submitted to SN Computer Science.

58. Parijata Majumdar, "Plant Leaf Disease Detection Using XGBoost with OPTUNA Hyperparameter Optimization" Submitted to OPSearch.

59. Arijita Bhowmik, Somen Debnath, R. Chawngsangpuii, Parijata Majumdar, "Crowd-Sourced Blood Bank Management: A Secure and Efficient Reuse-Oriented Framework" Submitted to SN Computer Science.

60. Parijata Majumdar, Sanjoy Mitra "Optimized Soil Moisture Prediction Using RF-PSO and modified BACO based Feature Selection" SN Computer Science .

61. Pragnaleena et al. "Analysis of Opportunities and Challenges of smart aquaonic system: A summary of research trends and future research avenues." Sustainable Environment Research.

PATENTS

1. Parijata Majumdar, Sanjoy Mitra, Diptendu Bhattacharya, Bharat Bhushan, Mithileysh Sathiyanarayanan, "Automated Crop Irrigation System with Pesticide Optimizer through Binary Ant Colony Optimization and Ensemble Approach". Indian Patent, September 2023, Patent Number - 202331059451. PUBLISHED.

2. Diptendu Bhattacharya, Parijata Majumdar, and Sanjoy Mitra, "CNN-Based Automated System for Early Detection and Classification of Tomato Leaf Diseases in Agriculture". Indian Patent, November 2023, Patent Number - 202331084228. PUBLISHED.

3. Diptendu Bhattacharya, Parijata Majumdar, Sanjoy Mitra and Souramita Das, "Cognitive Sonic Manifestation: Futuristic NLP-Driven Text-to-Audio for Enhanced Accessibility in the Visually Impaired Community". Indian Patent, November 2023, Patent Number - 202431017275. PUBLISHED AND GRANTED.

4. Sanjoy Mitra, Ankit Kishore Sen, Parijata Majumdar, Deeptanu Choudhury, Priyanka Majumder "IoT based Wearable Health Monitoring Device". Indian Patent, November 2023, Patent Number – 410543-001. PUBLISHED AND GRANTED.

5. Priyanka Majumder, Parijata Majumdar, Amrit Das and Pragnaleena Debroy "Innovative Decision Support Tool utilizing Multi-criteria Decision Making for Effective Resource Allocation". Patent Number – 411697-001. PUBLISHED.

6. Priyanka Majumder, Parijata Majumdar, Susmita Paul and Subhendu Das "Wearable Disaster Emergency Communication Device". Patent Number – 413045-001. PUBLISHED AND GRANTED.

7. Diptendu Bhattacharya, Parijata Majumdar, Sanjoy Mitra "Blockchain enabled agricultural supply chain integrity system". Patent Number – 559453. Patent **GRANTED**.

8. Dr. C. Krubakaran, Parijata Majumdar, Biswaraj Roy, Madhukar Cherukuri, Dr. Somnath B. Thigale, Thalari Kanakamma, C. Dinadhayalan Sagar D. Dhawale, S. Bavankumar "Blockchain-Based Outsourced Storage Schema in Untrusted Environment". Patent Number – 202441044767. PUBLISHED.

9. Diptendu Bhattacharya, Parijata Majumdar, Sanjoy Mitra “Accelerometer based phone activity Recognizing device”. Patent Number – 420591-001. PUBLISHED AND GRANTED.

10. Parijata Majumdar, Deeptanu Choudhury, Subhendu Banik, Susmita Paul, Priyanka Majumder, “NETWORK THREAT DETECTION AND PREDICTION DEVICE”. Patent Number - 430801-001. APPLICATION UNDER PROCESS. 29359/2024-CO/L. COPY RIGHT UNDER PROCESS.

11. Ankit Kishore Sen, Parijata Majumdar, Deeptanu Choudhury, Priyanka Majumder, Mehali Sen, Suman Chakroborty “PORTABLE ECG MONITORING DEVICE”. Patent Number - 413366-001. PUBLISHED AND GRANTED.

12. Parijata Majumdar, Bharat Bhushan, Jayanta Das, Priyanka Majumder, Susmita Paul, “AI-DRIVEN QUANTUM-RESISTANT HUB FOR SECURE COMMUNICATION IN CONNECTED MEDICAL DEVICES” 202431083527 UTILITY PATENT PUBLISHED.

13. Diptendu Bhattacharya, Parijata Majumdar, Sanjoy Mitra “AUTONOMOUS UV-C STERILIZATION AND EMERGENCY RESPONSE ROBOT FOR HOSPITAL ENVIRONMENTS” UTILITY PATENT GRANT 202431083544

14. Parijata Majumdar, Sushmita Paul, Deeptanu Choudhury, Ankit Kishore Sen, Mainak Saha, “AI-Powered Learning Disability Detection Device”. Patent Number -438185-001. PUBLISHED AND GRANTED.

15. Arijita Bhowmik, Arpita Banik, Dipjyoti Deb, Dr. Parijata Majumder, Susmita Majumder “Apparatus for Task matching Schema”. Patent Number - 441957-001. PUBLISHED AND GRANTED.

16. Diptendu Bhattacharya, Parijata Majumdar “Decentralized Solar-Powered Agricultural Pod for Blockchain Based Soil and Crop Monitoring” UTILITY PATENT PUBLISHED 202531040306.

AUTHORED BOOKS PUBLISHED

Data Mining Techniques for Extractive Audio Speech Summarization, ISBN: 978-93-6048-210-7, String Publication House.

Impact of Internet of Things in Biotechnology, Journal of Electrical Systems, Indexed by Scopus and ISI Thomson Reuters. ISSN: 1112-5209/JES

Introduction to R Programming for Data Science, ISBN: 978-93-6631-274-3, SGSH Publications

Machine Learning Principles and Techniques, Aryan Publishing House.

Fundamentals of Blockchain Technology

COMPHREHENSIVE RESEARCH METHODS: FRAMEWORKS, TECHNIQUES AND REAL -WORLD APPLICATIONS, ISBN No. 978-93-48106-70-4, Eastern Book Publication House.

EDITED BOOKS

Harnessing the Potential of Artificial Intelligence to promote Environment Sustainability, Emerald Publishers.

Maximizing Agri Business Potential: Explainable Artificial Intelligence (XAI) in Agricultural Recommender Systems - Computational Methods For Industrial Applications Book Series, CRC Press, Taylor and Francis.

Applied Computational Intelligence: Transforming Concepts into Real-World Solutions- Advancements in Intelligent and Sustainable Technologies and Systems Book Series, CRC Press, Taylor and Francis.

AWARDS

EARG Awards 2024 for **Excellence in Research and Development** in association with Math Tech Thinking Foundation, INDIA.

POST DOCTORAL RESEARCH EXPERIENCE/PROJECTS

Collaborated with Prof. (Dr.) Diego Alberto Oliva Navarro on the project "Metaheuristic algorithms for solving real-world problems", University of Guadalajara, Mexico.

Collaborated with Prof. (Dr.) Debashis De on the project "Computational Algorithms for solving Precision Agriculture Applications" MAKAUT, West Bengal.

CONSULTANCY PROJECTS

Automated Crop Irrigation System with Pesticide Optimizer through Binary Ant Colony Optimization and Ensemble Approach (MIT Square London)

Expert Speaker/Reviewer/ Speaker Invitation/ Editorial Board Member in Journals/ Conferences:

Editor of the Journal IECE Transactions on Swarm and Evolutionary Learning

Editor of the Journal IETE Journal of Research (Taylor and Francis Online)

Keynote Speaker for the Joint Faculty Development Program in the course titled **"Cyber Security for Robotics and Unmanned Aerial Vehicles (UAV)"** organized by **Department of Computer Science and Engineering, GIET University & ABIT Cuttack and Indian Institute of Technology Roorkee** on the the topic titled "Securing Autonomous Systems: Cyber Threats and Defense Mechanisms for Robotics and UAVs" on 03.02.2025 (03:00 PM to 05:00 PM).

Keynote Speaker for the Joint Faculty Development Program in the course titled **"Industrial IoT and its applications"** organized by **Department of Computer Science and Engineering, GIET University & ABIT Cuttack and Indian Institute of Technology Roorkee** on the the topic titled "**Industrial IoT and its applications**" on 05.04.2025 (09:00 A.M to 11:00 A.M).

Keynote Speaker on topic "AI in Metaverse" in Faculty Development Program titled "Advances in Computing and IT revolution" in Online mode organized by Sharda University on Advances in Computing and IT Revolution (ACIR-2025) in collaboration with IEEE Sharda University Student Branch on 11.02.2025 (11:00 AM to 01:00 PM).

Associate Editorial Board Member of Journal of IECE Transactions on Swarm and Evolutionary Learning

Advisory Committee Member in ATAL 6 days Online FDP On "Developing Low-Power Wireless IoT Applications Using MRuby" organized by Dept. of ETCE in Jerusalem College of Engineering (20th Jan-25th Jan, 2025).

Resource Person in a One-Week Online ATAL FDP On "Next-Generation IoT: The Convergence of Designing Robust and Scalable Applications", organized by Dept. of ETCE in Avanthi Institute of Engineering & Technology (From 2nd December- 7th December, 2024) in the topic "Data management and big data analytics in IoT".

Session Chair in the special track of Control and Instrumentation in IEEE SILCON 2024 organized by IIIT Agartala.

Expert Speaker in Webinar conducted on AI advancements in Precision Agriculture conducted in association with CSI Kolkata.

Expert Speaker in 4th International Conference on "Innovations and Recent Trends in Computer Science" - ICIRTCS-24 on 17th December 2024, organized by Dept. of CSE, St. MARTIN'S Engineering College (Scopus).

Expert Speaker in FDP on Incorporating AI Tools in Academic Research.

Keynote Speaker in International Conference on Advanced Materials and Start-up Ecosystem held in Thiruvananthapuram, Kerala, India (13-15th December, 2024) (https://conference.trestpark.com/speakers-list), Topic: Sits at the intersection of technology, business, and innovation: Advanced Materials & the Start-Up Ecosystem.

Reviewer in Elsevier Journal of Applied Soft Computing.

Reviewer in journal of Signal, Image and Video Processing.

Reviewer in Journal of IEEE Transactions on IEEE Open Journal of Vehicular Technology.

Reviewer in Journal of Medical Engineering & Technology.

Reviewer in Journal of IEEE Transactions on Green Communications and Networking.

Reviewer in Elsevier Journal of Information processing in Agriculture.

Reviewer in Elsevier Journal of Computer and Electronics in Agriculture.

Reviewer in Irrigation Science Journal.

Reviewer in Journal of Control and Cybernetics.

Reviewer in Journal of Sustainable Agriculture and Environment.

Reviewer in IEEE Conference on Next Generation Computing Applications, Mauritius .

Reviewer in Mathematical Problems in Engineering Journal, Hindawi.

Reviewer in Evolutionary Intelligence.

Reviewer in IEEE International Conference on Computing, Communication, and Intelligent Systems 2022.

Reviewer in 13th International Conference on Electronics, Communications and Networks (CECNet2023) which will be held during November 17-20, 2023, in Macao, China.

Program committee member of CAI2025 (2025 IEEE Conference on Artificial Intelligence).

Reviewer in Journal of Agricultural Water Management.

Reviewer in Journal of Cogent Engineering.

Invited as a Distinguished Speaker in 5th Edition of the Advanced Chemistry World Congress 2024, Conference in Amsterdam, Netherlands.

Invited as a Distinguished Speaker in 6th Edition of Advanced Materials Science World Congress (Adv. Materials Science 2024), 2024 Conference in Amsterdam, Netherlands.

Invited as a Distinguished Speaker at the Global Conclave on the Future of Biosensors and Bioelectronics" scheduled to take place on June 20-21, 2024, in Barcelona, Spain.

Editorial board member in Advances in Applied Sciences Journal.

Keynote Speaker at **National Level Conference on Emerging Trends in Electronics, Communication & Computing Technology - NCETECCT 2024 (online), in** association with our IETE –Students Forum on 6th & 7th of May 2024, in Jerusalem College of Engineering (Autonomous), Chennai.

Keynote Speaker in International Conference on Advanced Communications and Machine Intelligence (MICA 2024)" on 19th October 2024, in the field of Advanced

Communications and Machine Intelligence, held in Université des Mascareignes, Mauritius.

Session Chair in International Conference on Advanced Communications and Machine Intelligence (MICA 2024)" on 19th October 2024, in the field of Advanced Communications and Machine Intelligence, held in Université des Mascareignes, Mauritius.

Expert lecture in the 5 Days Faculty Development Program on Modern & Innovative tools in Engineering Education, organized by Department of Computer Science & Engineering & Department of Artificial Intelligence & Data Science, TCEA in Association with Computer Society of India (Kolkata Chapter).

Editorial Board Member of the journal Humanities and Social Sciences Communications.

Guest Editor in **IEEE MMTC Communications – Frontiers** for the special issue on Recent Advances in IoT Based Precision Agriculture and its Applications.

Reviewer in Agricultural Water Management Journal.

Reviewer in Cluster Computing Journal.

Reviewer in BioMedical Signal Procesing and Control Journal.

Reviewer in Measurement Journal (Elsevier)

Reviewer for Third International Conference on Data Science and Network Engineering.

Reviewer in Smart Agricultural Technology (Elsevier)

Resource Person/Keynote Speaker for FDP on “Developing AI Powered AR/VR and Metaverse applications for future Generations”, DNR College of Engineering and Technology, Bhimavaram, Andhra Pradesh.

Program committee membr of EI.A 2025 (Energy Informatics. Academy Conference 2025).

Member of TPC for the 2025 IEEE 3rd International Symposium on Sustainable Energy, Signal Processing, and Cybersecurity (iSSSC 2025)' scheduled from November 6–8, 2025, at GIET University, Gunupur, Odisha, India.

Reviewer in International Journal of Data Science and Analytics.

Reviewer in Scientific Reports Journal.

Reviewer in Smart Agricultural Technology.

Reviewer in Evolving Systems Journal.

Reviewer in Signal, Image and Video Processing.

Given Training session in SIPARD Agartala on “Digital Governance Tools” on 20th June, 2025.

I, Parijata Majumdar, hereby declare that the information furnished above is correct and true to the best of my knowledge and beliefs.

Date: 15/10/24

Place: Agartala