

**Dr. Babita Majhi**

Associate Professor

Dept. of Computer Science and Information Technology

Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur-495009(CG),India Email:babita.majhi@gmail.com, Mobile :9098715203

**Academic Appointments:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

29/09/2023 – Till Date : Associate Professor, Dept. of CSIT, Guru Ghasidas Vishwavidyalaya (Central University), Bilaspur, India

13/01/2012 –28/09/2023: Asst. Professor, Dept. of CSIT, Guru Ghasidas Vishwavidyalaya (Central University), Bilaspur, India

 (Dec. 2011-Dec. 2012) Boyscast Fellow(DST, GOI) at University of Sheffield, United Kingdom.

2009-2011 : Asst. Professor, Dept. of CSIT, Institute of Technical Education and Research, Siksha “O” Anusandhan (Deemed to be) University, Bhubaneswar, India**.**

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**Education :**

Post Doc.(Boyscast Fellow, DST, GOI) Dec.2011-Dec.2012, University of Sheffield, United Kingdom (UK).

Ph.D., 2009, National Institute of Technology Rourkela, Odisha, India**.**

Master of Computer Application(MCA),Sambalpur University/Biju Patnaik University of Technology, Odisha, 2005 (First division)

**Research Experience :**

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***Ph. D. Thesis*** : On Applications of Soft and Evolutionary Computing Techniques to Direct
 and Inverse modeling Problems

Supervisor : Prof. Ganapati Panda, FNAE, FNASc., National Institute of Technology,
 Rourkela

***Post Doctoral work*** for one year under BOYSCAST Fellowship of DST, Govt. of India, 2011-12 at University of Sheffield, UK.

Mentor : Prof. Peter J. Fleming, Dept. of Automatic Control and System Engg., University of Sheffield, UK.

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***Research Interests*** : Machine Learning, Data Mining, Data Analytics, Adaptive Signal Processing, Distributed signal processing and Time series analysis.

**Total Research Publications : 160**

International Journals : 54(Published), 02(Under Review)

Contributed Book Chapters : 14

Book : 02

Edited Book -01

Edited conference proceeding (ebook) -02

International Conferences : 72

National Conferences : 19

**Citations :**

Scopus :2240, h-index :24 (ID: 57211027422), ORCID : [0000-0001-7620-8674](https://www.scopus.com/redirect.uri?url=https://orcid.org/0000-0001-7620-8674&authorId=57211027422&origin=AuthorProfile&orcId=0000-0001-7620-8674&category=orcidLink) Web of Science Researcher ID : AFL-4971-2022, Vidwan ID : 499948

Google scholar :3569, h-index : 27, i10index : 65

**Research Guidance : PhD : 06(Awarded), 06(continuing),**

 **M. Tech Theses: 08**

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| Sl. No. | Name of the student | Broad area/Title of the thesis | Name of supervisor | Name of Co-Supervisor | Remark |
|  | **Ph. D. Theses** |
| 1 | H Pal Thethi | Application of Bio-Inspired techniques for direct and inverse modeling | Babita Majhi | G. Panda | Awarded in 2011(KIITS Univ., BBSR) |
| 2 | Minakhi Rout | Development of Novel Intelligent Methods for Prediction of Financial Data | Babita Majhi | NIL | Awarded in 2015(SOA Univ., BBSR) |
| 3 | C. M. Anish | Development of novel methods for prediction of financial time series | Babita Majhi | NIL | Awarded in Oct. 2018(GGV) |
| 4 | Pushpalata Pujari | Development of novel methods for Odia language processing | Babita Majhi | NIL | Awarded in Dec. 2019 (GGV) |
| 5 | Diwakar Naidu | On applications of machine learning techniques for analysis of agrometerological data | Babita Majhi | NIL | Awarded 15/09/2021(GGV) |
| 6 | Aarti Kashyap | Analysis and interpretation of healthcare data using machine learning techniques | Babita Majhi | NIL | Awarded 08/05/2024(GGV) |
| 7 | Prastawana | Development and performance evaluation of novel Intrusion detection systems using ML techniques | Babita Majhi | NIL | Continuing (GGV, Sept. 2020) |
| 8 | Rupesh Naik | Development of novel methods using machine learning techniques for Smart agriculture | Babita Majhi | NIL | Continuing(GGV, Dec 2021) |
| 9 | Manishankar Sahu | Machine learning in agriculture | Babita Majhi | NIL | Admitted20/5/2024 |
| 10 | Neha Bole | Sickle Cell Disease classification and analysis | Babita Majhi | Nil | AdmittedMay 2025 |
| 11 | Bharti Mangeshkar | Parkinson Disease detection | Babita Majhi | Nil | Admitted May 2025 |
| 12 | Pallab Bhattacharya | Intrusion detection | Babita Majhi | Nil | Admitted May 2025 |
|  | **M. Tech. Theses** |
| 1 | Bijayalaxmi Panda | Classification of consumer behavior using soft and evolutionary computing techniques  | Babita Majhi | NIL | Awarded in 2010 |
| 2 | Debashree Mishra  | Stock market prediction using Artificial neural network | -do- | Nil | Awarded in 2011 |
| 3 | Madhusmita Nayak | Clustering and classification of microarray data using soft computing techniques | -do- | NIL | Awarded in 2011 |
| 4 | Chinmayee Bihari | Handwritten odia character recognition using ANN | -do- | NIL | Awarded in 2011 |
| 5 | Jyoti Mohanty | Development of mismatch filters for radar pulse compression | -do- | NIL | Awarded in 2011 |
| 6 | Usha Manashi Mahapatra | Development and performance evaluation of exchange rate forecasting | -do- | NIL | Awarded in 2012 |
| 7 | Rojalin Mahapatra | Performance evaluation of feature reduction techniques for microarray data | -do- | NIL | Awarded in 2012 |
| 8 | Bishnupriya Panda | Protein structural classification using soft computing techniques | -do- | NIL | Awarded in 2013 |

**MCA and M. Sc. Projects : 150 nos.**

**B. Tech. /B.Sc. Projects : 50 nos.**

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**Details of Publications :** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**International Journals (55-Published, 02-under review)**

**Submitted**

1. Rupesh Naik, Babita Majhi, Sujata Dash and Sourav Mallick, Seq2seq based precipitable water vapor prediction : A Deep learning approach for enhanced rainfall forecasting and water resource management, Egyptian Informatics, Elsevier, April 2025.
2. Manishankar and Babita Majhi, Deep Learning-Based Weed Classification for Winter Crop: A Transfer Learning Approach, ACM Transaction on AI in Science, July 2025

**Published**

1. Rupesh Naik and Babita Majhi, Explainable AI Reverse Verification Approach for Monthly Rainfall Prediction in Chhattisgarh, India”, **Theoretical and Applied Climatology** (IF : 2.7), SpringerNature, Vol. 156(7), 412 July 2025.DOI:10.1007/s00704-025-05645-2
2. Rupesh Naik, Babita Majhi and Diwakar Naidu, Prediction of pan evaporation in Chhattisgarh using machine learning techniques, **Journal of Agrometerology**, Association of Agrometerologist, India (IF : 0.915),vol.27, issue 1, pp. 86-91, March 2025. DOI:https://doi.org/10.54386/jam.v27i1.2731
3. Babita Majhi and Aarti Kashyap, Explainable AI-driven Machine Learning for Heart Disease Detection using ECG Signal, **Applied Soft Computing**, Elsevier, vol.`167, Part A, Dec 2024, 112225.**(IF: 7.2)** <https://doi.org/10.1016/j.asoc.2024.112225>
4. Babita Majhi and Prastawana, A Feature Selection Model Using Binary FOX Optimization and V-shaped transfer function for Network IDS, **Peer- to Peer Networking and Applications**, SpringerNature, 17(6), pp. 3556–3570, August 2024**(IF : 3.3),** https://doi.org/10.1007/s12083-024-01720-z
5. Babita Majhi, Aarti Kashyap, Siddarth Suprasad Mohanty, Sujata Dash et.al., An Improved Method for Diagnosis of Parkinson’s Disease using Deep Learning Models Enhanced with Metaheuristic Algorithm, **BMC medical Imaging**, SpringerNature, 24:156, June 2024. **(IF: 2.9)** https://doi.org/10.1186/s12880-024-01335-z
6. Babita Majhi, U. M. Mahapatra and S. C. Satapathy, Distributed Machine Learning Strategies for Efficient Development of Direct and Inverse Nonlinear and IIR Models, **Journal of Ambient Intelligence and Humanized Computing, Springer**, 2024, 15(1), pp. 1103–1114**,** DOI : 10.1007/s12652-018-0839-7
7. Babita Majhi and Aarti Kashyap, Wavelet based ensemble model for early prediction of mortality using imbalance ICU big data, **Smart Health, Elsevier**, vol.28, pp.100374, June 2023. (Scopus indexed). https://doi.org/10.1016/j.smhl.2023.100374
8. Babita Majhi and Aarti Kashyap, Development and assessment of different balancing techniques and deep learning based prediction models for mortality prediction using ICU data, **International Journal of Pharmaceutical Sciences and Research**, vol. 14, issue 8, pp.4170-4192, August 2023(Scopus Indexed) doi: 10.13040/IJPSR.0975-8232.14(8).4170-92
9. Babita Majhi, A Modified Artificial Neural Network (ANN)Based Time series Prediction of COVID-19 Cases from Multi-country data, **Journal of Institution of Engineers(IE), India** Series-B, SpringerNature, 104, pp. 335-350, Jan. 2023. (Scopus indexed) DOI : 10.1007/s40031-022-00849
10. P. R. Jena, Babita Majhi, R. Kali and R. Majhi, Prediction of Crop Yield Using Climate Variables in the South-western Province of India: A Functional Artificial Neural Network Modeling (FLANN) Approach, **Environment, Development and Sustainability, Springer**,vol.25, 11033- 11056, 2023**.(IF:4.080)DOI:**10.1007/s10668-022-02517-x
11. P. R. Jena, Babita Majhi and R. Majhi, Estimating Long-run Relationship Between Renewable Energy Use and CO2 Emissions: A Radial Basis Function Neural Network (RBFNN) Approach, **Sustainability,**14(9), 5260; [**https://doi.org/10.3390/su14095260**](https://doi.org/10.3390/su14095260), April 2022**.(IF: 3.251)**
12. P. R. Jena, S. Managi, Babita Majhi, Forecasting the CO2 emission at the global level: A multilayer artificial neural network modeling, **Energies,***14(19)*, 6336, Oct. 2021.. https://doi.org/10.3390/en14196336 **(IF : 3.004)**
13. P. R. Jena, R. Majhi, R. Kali, S. Managi, Babita Majhi, Assessing the Impact of COVID-19 on GDP of Major Economies in the World: Use of the Artificial Neural Network Forecaster**, Economic analysis and policy, Elsevier**, 69, pp. 324-339, March 2021 **(IF : 2.497)** <https://doi.org/10.1016/j.eap.2020.12.013>
14. A. K. Sahoo, S. K. Mishra, Babita Majhi, G. Panda and S. C. Satpathy, Real-time Identification of Fuzzy-PID controlled Maglev System using TLBO based Functional Link Artificial Neural Network, **Arabian Journal of Science and Engineering, Springer**, 46, 4103–4118, Feb. 2021 **(IF: 2.334**) https://doi.org/10.1007/s13369-020-05292-x
15. Babita Majhi and Diwakar Naidu, Differential Evolution based RBF Neural Network model for Reference Evapotranspiration Estimation, **SN Applied Sciences, Springer**, 3(1), 56, Jan.2021. (Scopus) <https://doi.org/10.1007/s42452-020-04069-z>
16. B. Panda and Babita Majhi, A novel improved prediction of protein structural class using Deep recurrent neural network, **Evolutionary Intelligence, Springer**, vol. 14, issue 2, pp. 253-260, 2021. **(Scopus Indexed)**.**(Citations : 03)** (UGC : 29041). <https://doi.org/10.1007/s12065-018-0171-3>
17. Babita Majhi, C.M. Anish and Ritanjali Majhi, On Development of Novel Hybrid and Robust daptive models for Net asset value prediction, Journal of King Saud Univ.-Computer and Information Science, Elsevier,33, pp.647-657,2021 DOI: 10.1016/j.jksuci.2018.04.011. **(Impact factor : 5.2)** (Citations : 03) (UGC Jr. No.: 30389)
18. Babita Majhi and Diwakar Naidu, Pan evaporation modeling in different agro-climatic zones using Functional link artificial neural network, **Information Processing in Agriculture, Elsevier**, vol.8, issue 1, pp.134-147, 2021. <https://doi.org/10.1016/j.inpa.2020.02.007> (Scopus Indexed)
19. A. Thakur, A.P. Mishra, B. Panda, S. Kumari and Babita Majhi, Detection of disease specific parent cells via distinct population of nano-vesicles by machine learning, **Current Pharmaceutical Design,** Bentham Science, 26(32), pp.3985-3996, 2020, **(Impact factor : 3.116)** DOI: [10.2174/1381612826666200422091753](https://doi.org/10.2174/1381612826666200422091753) **ISSN: 1873-4286 (Online) ISSN: 1381-6128 (Print)**
20. A.Thakur, A. P. Mishra, B. Panda,Rodriguez, D. C. S., Gaurav I. and Babita Majhi, Application of Artificial Intelligence in Pharmaceutical and Biomedical Studies, **Current Pharmaceutical Design,** Bentham Science, 26(29), pp. 3569-3578, 2020. **(Impact factor : 3.116)** doi: 10.2174/1381612826666200515131245
21. Babita Majhi, D. Naidu, A. P Mishra and S.C. Satapathy, Improved prediction of daily pan evaporation using Deep LSTM network, **Neural Computing and applications, Springer,** vol. 32, issue 12, pp. 7823-7838, June 2020. **(Impact Factor :5.606**) (Citations : 04) (<https://doi.org/10.1007/s00521-019-04127-7>
22. D. Naidu and Babita Majhi, Reference evapotranspiration modeling using radial basis function neural network in different agro-climatic zones of Chhattisgarh, **Journal of Agrometeorology**, vol. 21, issue 3, pp. 316-326, Sept. 2019. **(impact factor 0.563)** (WoS, Scopus & ICI) (UGC-26374)
23. U. M Mahapatra, Babita Majhi and S. C. Satapathy, Financial time series prediction using Distributed Machine learning techniques, **Neural Computing and its applications, Springer**, 31(8), pp. 3369-3384, Oct. 2019. **(Impact Factor:5.606).** <https://doi.org/10.1007/s00521-017-3283-2>. (UGC Jr. No.: 37535)
24. U. M. Mahapatra, Babita Majhi and Alok Jagdev, On the development of Cat Swarm metahuristic using distributed learning strategies and the applications, **International journal of intelligent computing and cybernetics,** vol. 12, issue 2, pp. 224-244, May2019. **(IF: 2.6) (Citation : 01)** (UGC : 22981) https://doi.org/10.1108/IJICC-10-2018-0146
25. P. Pujari and Babita Majhi, Recognition of Odia Handwritten Digits using Gradient based Feature Extraction Method and Clonal Selection Algorithm, **International Journal of Rough Sets and Data Analysis, IGI Global,** vol. 6, issue 2, pp. 19-33, April-June 2019**.**.(UGC : 48803) DOI: 10.4018/IJRSDA.2019040102
26. Bishnupriya Panda, Babita Majhi and Abhimanyu Thakur, An integrated-OFFT model for the prediction of protein secondary structure, **Current Computer aided drug design, Bentham Science, vol. 15, issue 1, pp. 45-54, 2019. (Impact Factor : 1.606)** (UGC : 14194) Doi: 10.2174/1573409914666180828105228 (Citation: 01)
27. Babita Majhi and P. Pujari, On Development and Performance Evaluation of Novel Odia Handwritten Digit Recognition Methods, **Arabian** **Journal for Science and Engineering, Springer**, vol. 43, [Issue 8](https://link.springer.com/journal/13369/43/8/page/1), pp 3887–3901, Aug. 2018. DOI 10.1007/s13369-017-2652-6 **(Impact factor :2.334) (Citation -03)** (UGC Jr. No.: 8147)
28. VSS Sameer Chakravarthy Vedula, Chowdary Satish Rama Paladuga, Ganapati Panda, Jaume Anguera, Aurora Andújar and Babita Majhi, On the linear antenna array synthesis techniques for sum and difference patterns using flower pollination algorithm", **Arabian Journal of Science and Engineering, Springer**, vol. 43, issue 8, pp. 3965–3977, August 2018. DOI 10.1007/s13369-017-2750-5 **(Impact factor:2.334) (Citations -16)** (UGC Jr. No.: 8147)
29. Soumya Ranjan Tripathy, G. Panda and Babita Majhi, Constrained LMMSE based object specific reconstruction in compressive sensing**, IET Signal Processing**, 11(9), pp. 1122-1127, 2017. **(Impact Factor : 1.692).(**UGC Jr. No.: 30103)
30. B. Panda and Babita Majhi, ADAMMLP: An Adaptive Moment Based Hybrid Multi-Layer Perceptron for Protein Secondary Structure Prediction, **Journal of Pharmaceutical Science and Research**, Pharmainfo Publication, 9(11), pp. 2023-2028, 2017. ISSN 0975-1459**(Scopus Indexed)** (UGC Jr. No.: 19145)
31. C. M. Anish, Babita Majhi and R. Majhi, Development and evaluation of novel forecasting adaptive ensemble model, **The Journal of Finance and Data Science, Elsevier**, vol. 2, issue 3, pp. 188-201, Sept 2016. IF: 3.9 (Citations : 03)
32. S. K. Mishra, G. Panda and Babita Majhi, Prediction based mean-variance Model for Constrained Portfolio Optimization using Multiobjective Particle Swarm Optimization, **Swarm and Evolutionary Computation, Elsevier**, vol.28, pp. 117-130, June 2016. **(Impact factor : 8.5)** (UGC Jr. No.: 22324) **(Citation:15)**
33. C. M. Anish and Babita Majhi, Hybrid Nonlinear Adaptive Scheme for Stock Market Prediction using Feedback FLANN and Factor Analysis”, **Journal of the Korean Statistical Society**, **Elsevier**, vol. 45, issue 1, pp.64-76, March 2016. **(Impact factor : 0.569)** (UGC Jr. No.:11175) **(Citations :31)**
34. Babita Majh and C. M. Anish, “Multiobjective optimization based adaptive model with fuzzy decision making for stock market forecasting”, **Neurocomputing**, **Elsevier**, vol. 167, issue 1, pp. 502-511, November 2015. **(Impact factor :5.719)** (UGC Jr. No.: 37560) **(Citations :28)**
35. P. R. Jena, R. Majhi and Babita Majhi, “Development and Performance Evaluation of a Novel Knowledge Guided Artificial Neural Network (KGANN) Model for Exchange Rate Prediction”, Journal of King Saud University **– Computer and Information Sciences, Elsevier**, vol.27, no. 4, pp. 450-457, Oct. 2015. **(Impact factor : 13.473)** (UGC Jr. No.: 30389) **(Citations :16)**
36. Minakhi Rout and Babita Majhi, “Long range prediction of retails sales volume using Recurrent Radial basis function neural network”, **International Journal of Foresight and Innovation Policy, Inderscience Publication**, vol. 10, no. 1, pp.29-47, 2015. **(Scopus Indexed) (Citation:01)** (UGC Jr. No.: 3045)
37. Babita Majhi, Minakhi Rout and Vikas Bhagel, “On the Development of Multiobjective based RBF Prediction model for Efficient Forecasting of Stock Indices”, Journal of King Saud university- **Computer and Information Sciences**, **Elsevier**, Vol. 26, issue 3, pp. 319-331,Nov. 2014. **(Citation-21) ((Impact factor : 13.473)** (UGC Jr. No.: 30389)
38. U. K. Sahoo, G. Panda, B. Mulgrew and Babita Majhi, “Development of robust distributed learning strategies for wireless sensor networks using rank based norms”, **Signal Processing**, **Elsevier**, vol. 101, pp. 218-228, Aug. 2014 (**Impact factor : 4.662**) **(Citation-08)** (UGC Jr. No.: 36023)
39. U. K. Sahoo, G. Panda, B. Mulgrew and Babita Majhi, “Robust Incremental Adaptive Strategies for Distributed Networks to Handle Outliers in both Input and Desired Data”, **Signal Processing**, **Elsevier**, vol. 96, part B, pp. 300-309, March 2014.( **impact factor : 4.662**) **(Citation-06)** (UGC Jr. No.:36023) **(citation-2)**
40. Minakhi Rout, Babita Majhi, R. Majhi, G. Panda, “Forecasting of currency exchange rates using an adaptive ARMA model with differential evolution based training”, Journal of King Saud university- **Computer and Information Sciences**, **Elsevier**, vol. 26, Issue 1, pp. 7-18, January 2014, ISSN : 1319-1578**.(Citations-71) (Impact factor : 13.473))** (UGC Jr. No.:30389)
41. Babita Majhi and Ganapati Panda, “Distributed and Robust Parameter Estimation of IIR Systems using Incremental Particle Swarm Optimization”, **Digital Signal Processing : A Review Journal, Elsevier, vol**. 23, issue 4, pp.1303-1313, July 2013. **(Impact factor :3.381). (Citation-15)** (UGC Jr. No.:13201)
42. T. Panigrahi, G. Panda, B. Mulgrew and Babita Majhi, “Distributed DOA estimation using clustering of sensor nodes and diffusion PSO algorithm”, **Swarm and Evolutionary Computation**, **Elsevier**, vol.9, pp.47-57, April 2013, ISSN : 2210-6502 **(Impact factor :7.177) (Citation-27).** (UGC Jr. No.:22324)
43. T. Panigrahi, G. Panda and Babita Majhi, “Maximum Likelihood Source Localization in Wireless Sensor Network Using Particle Swarm Optimization”, **International Journal of Signal and Imaging Systems Engineering**, Inderscience Publication, vol. 6, issue 2, pp.83-90, 2013**.(Citations-09)** **(Scopus Indexed)** (UGC Jr. No.:23509)
44. Babita Majhi, Minakhi Rout, R. Majhi, G. Panda and P. J. Fleming, “New robust forecasting models for exchange rates prediction”, **Expert systems with applications**, Elsevier, vol. 39, issue 16, pp. 12658-12670, Nov. 2012. (**Impact factor: 6.954**). **(Citations-48).** (UGC Jr. No.:29150)
45. U. K. Sahoo, G. Panda, B. Mulgrew and Babita Majhi, “QR-based incremental minimum-Wilcoxon-norm strategies for distributed wireless sensor networks”, **Signal Processing**, **Elsevier**, vol. 92, issue 11, pp.2657-2667*,* Nov. 2012. (**Impact factor :4.662**). **(Citation-06)** (UGC Jr. No.:36023)
46. R. Majhi, Babita Majhi and G. Panda, “Development and performance evaluation of Neural network classifiers for Indian internet shoppers”, **Expert Systems with Applications**, **Elsevier**, vol. 39, issue 2, pp.2112-2118, February 2012**.(Impact factor: 6.954**). **(Citation-09)** (UGC Jr. No.:29150)
47. G. Panda, P. M. Pradhan and Babita Majhi, “IIR System Identification using Cat Swarm Optimization”, **Expert Systems with Applications**, vol. 38, issue 10, pp. 12671-12683, September 2011. (**Impact factor: 6.954**) **(Citations – 188)** (UGC Jr. No.:29150)

1. Babita Majhi and G. Panda, “Robust Identification of Nonlinear Complex Systems using Low Complexity ANN and Particle Swarm Optimization Technique”, **Expert Systems with Applications**, Elsevier, vol. 38, issue 1, pp.321-333, January 2011. **(Impact factor: 6.954**) **(Citations:43)** (UGC Jr. No.:29150)
2. S. J. Nanda, G. Panda and Babita Majhi, “Improved Identification of Hammerstein Plants using new CPSO and IPSO algorithms”, **Expert Systems with Applications**, Elsevier, vol. 37, issue 10, Pages 6818-6831, October 2010. (**Impact factor: 6.954). (Citations -42)** (UGC Jr. No.:29150)
3. Babita Majhi and G. Panda, “Development of Efficient identification Scheme for Nonlinear Dynamic Systems using Swarm Intelligence techniques”, **Expert Systems with Applications**, Elsevier, vol. 37, issue 1, pp. 556-566, January 2010. (**Impact factor: 6.954)** (**Citations –46)** (UGC Jr. No.:29150)
4. R. Majhi, G. Panda, Babita Majhi and G. Sahoo, “Efficient prediction of stock market indices using adaptive bacterial foraging optimization (ABFO) and BFO based techniques”, **Expert Systems with Applications**, Elsevier, vol. 36, issue 6, pp. 10097-10104, August 2009. (**Impact factor: 6.954**) **(Citations-149)** (UGC Jr. No.: 29150)
5. Babita Majhi, G. Panda and B. Mulgrew, “Robust identification using New Wilcoxon Least Mean Square (WLMS) Algorithm”, **Electronics Letters**, vol. 45, issue 6, pp. 334-335, 12th March 2009.(**Impact factor:1.316**). **(Citations-29)** (UGC Jr. No.: 13577)
6. Babita Majhi and G. Panda, “Cascaded Functional Link Artificial Neural Network Model for Nonlinear Dynamic System Identification”, **International Journal of Artificial Intelligence and Soft Computing**, Inderscience Publication, vol. 1, Nos. 2/3/4, pp. 223 – 237, 2009.**ISSN online:** 1755-4969 **ISSN print:** 1755-4950. **(Indexed in ACM Digital library) (Citation-02)** **(UGC Jr. No.:: 49129)** <https://doi.org/10.1504/IJAISC.2009.027293>
7. Babita Majhi, G. Panda, “Identification of IIR Systems using Comprehensive Learning Particle Swarm Optimization”, **International Journal of Power and Energy Conversion,** Inderscience Publication, vol. 1, no. 1, pp.105-124, 2009, **ISSN online:** 1757-1162
**ISSN print:** 1757-1154**. (Scopus Indexed) (Citations-08)** (UGC Jr. No.:23374)
8. Babita Majhi and G. Panda, “A Hybrid Functional Link Neural Network and Bacterial Foraging Approach for Efficient Identification of Dynamic Systems”, **International Journal of Applied Artificial Intelligence in Engineering Systems**, Serial Publication, vol. 1, no. 1, pp. 91-104, January-June 2009, **ISSN :**0975-3176.

 **Book Chapters**

1. Babita Majhi and Rupesh Naik, Ensemble Machine Learning based approach for Pan Evaporation prediction using observatory data, Ensemble Machine Learning: Advances in Research and Applications, [Meerja Akhil Jabbar](https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22Meerja+Akhil+Jabbar%22&source=gbs_metadata_r&cad=1), [Loveleen Gaur](https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22Loveleen+Gaur%22&source=gbs_metadata_r&cad=1), [Abdelkrim Haqiq](https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22Abdelkrim+Haqiq%22&source=gbs_metadata_r&cad=1), Chapter 7, pp. 119-153, Nova Science Publisher,USA Sept. 2024. ISBN 9798895300046(Scopus)
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70. **Babita Majhi** and G. Panda, *“*Recovery of Digital Information using Bacterial Foraging Optimization based Nonlinear Channel Equalizers*”,* Proc. of **IEEE 1st International Conference on Digital Information Management (ICDIM-2006),Bangalore,** India, 6-8th December, 2006, pp. 367-372. DOI : [10.1109/ICDIM.2007.369224](http://dx.doi.org/10.1109/ICDIM.2007.369224) **(Citation : 12)**
71. G. Panda, **Babita Majhi** and S. Mishra, *“*Nonlinear System Identification using Bacterial Foraging based Learning”, Proc. of **IET 3rd International Conference on Artificial Intelligence in Engineering Technology (ICAIET-2006), Malaysia,** 22-24, November, 2006, pp. 120-125. **(Citation:5)**
72. **Babita Majhi**, G. Panda and A. Choubey, “On The Development of a new Adaptive Channel Equalizer using Bacterial Foraging Optimization Technique*”,* Proc. of **IEEE Annual India Conference (INDICON-2006), New Delhi**, India, 15th-17th September, 2006, pp. 1-6.DOI: [10.1109/INDCON.2006.302761](http://dx.doi.org/10.1109/INDCON.2006.302761) **(Citation : 27)**
73. G. Panda, **Babita Majhi**, D. Mohanty and A. Choubey, “Development of GA Based Adaptive Techniques for Nonlinear System Identification”, Proc. of **International Conference on Information Technology (ICIT-2005), Bhubaneswar, I**ndia, 20-23, December, 2005, pp. 198-204.

**National Conferences(19 Nos.)**

*Published*

1. Aarti Kashyap and Babita Majhi, DWT and MFCC based feature extraction for heart disease classification using ECG signals, in Proc. of National conf. on Machine learning, deep learning and IoT, GGV, Bilaspur 19-20 Jan 2023, pp. 40-51. ISBN: 978-93-5768-638-9
2. Prastawana and Babita Majhi, Machine learning based intrusion detection system for DOS and DDOS attacks using BOT-IOT dataset, in Proc. of National conf. on Machine learning, deep learning and IoT, GGV, Bilaspur, 19-20 Jan 2023, pp. 97-105. ISBN: 978-93-5768-638-9
3. Rupesh Naik and Babita Majhi, Assessment of different machine learning techniques for rainfall prediction of three districts of Chhatisgarh state. in Proc. of National conf. on Machine learning, deep learning and IoT, GGV, Bilaspur 19-20 Jan 2023, pp. 106-111. ISBN: 978-93-5768-638-9
4. Siddharth Suprasad Mohanty and Babita Majhi, Diabetic mellitus prediction using Deep learning, . in Proc. of National conf. on Machine learning, deep learning and IoT, GGV, Bilaspur, 19-20 Jan 2023, pp. 122-130. ISBN: 978-93-5768-638-9
5. Diwakar Naidu, Babita Majhi and S.K. Chandniha, Development of radial basis function neural network model for monthly rainfall prediction for Chhattisgarh state in east central India, National Seminar on “Agrometeorological Interventions for Enhancing Farmers Income (AGMET-2020)”, College of Horticulture, Kerala Agricultural University, Vellanikkara, Thrissur, 20-22 Jan. 2020.(presented)
6. C. M. Anish, Babita Majhi and Harendra Bikrol, An adaptive RFLANN model with PSO basd training for Forex prediction, National conference on Data analytics, machine learning and security (NCDAMLS 2018), 14-15 Feb., 2018, GGV Bilaspur. ISBN : 978-93-5291-457-9.
7. Diwakar Naidu and Babita Majhi, Evaporation estimation using recurrent artificial neural network – A case study for Chhattisgarh plains region of east central India, National conference on Data analytics, machine learning and security (NCDAMLS 2018), 14-15 Feb., 2018, GGV Bilaspur. ISBN : 978-93-5291-457-9.
8. P. Pujari and Babita Majhi, Recognition of Odia vowels using clonal selection algorithm based FLANN model, National conference on Data analytics, machine learning and security (NCDAMLS 2018), 14-15 Feb., 2018, GGV Bilaspur. ISBN : 978-93-5291-457-9.
9. Babita Majhi and Usha manasi Mahapatra, Distributed inverse modeling using Incremental and diffusion LMS, National conference on Data analytics, machine learning and security (NCDAMLS 2018), 14-15 Feb., 2018, GGV Bilaspur. ISBN : 978-93-5291-457-9.
10. P. Pujari and Babita Majhi, Recognition of Vowels using Curvature Features and Genetic algorithm based FLANN model, AICON 2017, Durg, April 2017.
11. P. Pujari and Babita Majhi, Odia Handwritten Vowel Recognition System by using Discrete Cosine Transform and C5.0 Decision Tree Classifier” , All India National Conference AICON’16., Durg, 22-23, pp.1-6, April, 2016. ISBN: 978-81-923288-4-3.
12. P. Pujari and Babita Majhi, “Recognition of Handwritten Odia Numerals by using Prune Neural Network Model”, All Indian Conference on sustainable product development (AICON 2015), Durg, 24-25 April, 2015.
13. C. M. Anish and Babita Majhi, “Net Asset Value Prediction using RBF Model**”,** All Indian Conference on sustainable product development (AICON 2015), Durg, 24-25 April, 2015.
14. C. M. Anish and Babita Majhi, “Predicting Net asset value of Mutual fund using RFLANN model”, National seminar on Innovation and research in science, management and technology(IRSMT -2015), Bilaspur University, Bilaspur, 29-30 March, 2015. **(Received best paper award)**

1. P. Pujari and Babita Majhi, “Read coded genetic algorithm based neural network model for Odia numerals recognition”, National seminar on Innovation and research in science, management and technology(IRSMT -2015), Bilaspur University, Bilaspur, 29-30 March, 2015.
2. R. Mahapatra, Babita Majhi and M. Rout, “Efficient classification of cancer patient using artificial neural network”, 35th National Systems Conference, IIT Bhubaneswar, Dec. 9-11, 2011, pp.138-143.
3. R. Majhi, G. Panda and Babita Majhi, “Robust forecasting of foreign exchange rates using low complexity Wilcoxon norm based artificial neural network model”, Proc. of National conference on Forecasting Financial Markets in India (FFMI 2008), IIT Kharagpur, 29-31 December, 2008.
4. G. Panda, D. Mohanty and Babita Majhi, “An Adaptive Genetic Algorithm for System Identification : a faster approach”, Proc. of National Conference on Soft Computing Techniques for Engineering Applications (SCT-2006), NIT Rourkela, India, 24-26, March, 2006, pp. 329-336.
5. G. Panda, Babita Majhi, D. Mohanty, A. Choubey and S. Mishra, “Development of Novel Digital Channel Equalisers using Genetic Algorithms”, Proc. of National Conference on Communication (NCC-2006), IIT Delhi, India, 27-29,January, 2006, pp.117-121.

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PATENTS : 02 Published

1. Babita Majhi, Aarti Kashyap, Pushpalata Pujari, Rupesh Naik and Srishti Tripathi, SYSTEM AND METHOD OF WAVELET BASED ENSEMBLE MODELS FOR EARLY MORTALITY PREDICTION USING IMBALANCE ICU BIG DATA, Application No.202321028596 dated 19/04/2023  Published : 02/06/2023, Applied for granting under fast track(under review)
2. Babita Majhi, Pushpalata Pujari, Rupesh Naik, Srishti Tripathi, Prakash Ku Tripathi, Gargee Shukla, SYSTEM AND METHOD FOR TIME SERIES PREDICTION OF INFECTIOUS DISEASE CASES FROM MULTI-COUNTRY DATA USING REMODELED ARTIFICIAL NEURAL NETWORK (ANN), Application No. 202321034369 File date : dated 16/06/2023
3. German Utility Patent –Granted (01) Patent Application No. is  **20 2023 107 165.1** Title of the invention: **Optical character recognition-based system for assisting the visually impaired   (Auf optischer Zeichenerkennung basierendes System zur Unterstützung sehbehinderter Menschen)**

Date of File: **3rd  Day of December 2023, Date of Grant : 02/01/2024 IPC: G06V 10/80**

Name of Patent Applicants & Inventors:Dr. Rashmi Gupta, Mr. Jeetendra Kumar, Dr. Babita Majhi, Rupesh Naik, Dr. Pushpalata Pujari, Sachin Singh Rajput, Mrs. Gargee Shukla, Pravin Singh Yadav

1. INDIAN patent published

Title  of the invention:**SMART PARKING MANAGEMENT SYSTEM**

Date of File: **5th  Day of June 2024**

Patent Application No. is **202421043570**

Name of Inventors : Jeetendra Kumar, Dr. Rashmi Gupta, Dr. Babita Majhi,Suraj Sahu,Gargee Shukla,Dr. Pushplata Pujari, Rupesh Naik

**Projects : Submitted -01, Sanctioned - 01**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. No. | Title | Funding agency | Amount | Sanction letter no | Duration |
| 1 | Quantitative analysis of cardiovascular health : A Deep learning approach for early detection and risk assessment for Chhatisgarh State | CCOST | 4.4Lakhs | 1493/CCOST/MRP/2025Dt. 18/2/2025 | Two years(Feb 2025 to Jan. 2027) |

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**Awards and Recognition :**

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* Received grant of Rs. 1.5lakh from SERB for student internship under Accelerate Vigyan, Virtika program, 1-31st March 2024.
* Received best research paper award for 2019, 2020, 2021 and 2022 from Internal Quality Assessment Cell, GGV Bilaspur..
* Received grant from SERB, DST, GOI and CGCOST for conducting National Conference on Machine learning, deep learning and IOT during 19-20 Jan., 2023.
* Research Paper published (Pan evaporation modeling in different agro-climatic zones using Functional link artificial neural network, Information Processing in Agriculture, Elsevier) is linked with UN Sustainable development Goal for solving world’s greatest challenge, 2022.
* Editorial board members of Journal of advances in management sciences & information systems, 2021.
* Recognized as Outstanding Reviewer by journal of Data and Knowledge Engineering, Elsevier in August 2018.
* Received grant from SERB, DST GOI and CGCOST for conducting National Conference on Machine learning, data analytics and security, 15-16 Feb. 2018,
* Received grant from CCOST, Chhatisgarh for conducting National Conference, 2018.
* Elected as **Senior Member IEEE**, USA in 2016.
* Received Best Research paper awards in 2015 and 2016.
* Editorial Board Member of Turkish Journal of Forecasting, Turkey 2017.
* Received the **BOYSCAST Fellowship of DST**, GOI for postdoctoral work at University of Sheffield, UK during 2010-11.
* Received the **Indian National Academy of Engineering Fellowship** for doing research work for two months under the faculty mentoring scheme by INAE Fellows in summer 2010.
* Received Grant from DST, GOI for conducting National workshop on Swarm intelligence, 2010.
* Awarded the best Ph. D. thesis award by the IEEE International Conference on Nature and Biologically Inspired Computing (NaBIC 2009), Coimbatore held during 9-11 Dec. 2009.
* Worked as a Team member in the UK-India Education & Research Initiative (UKIERI) project “A biologically inspired approach to distribute sensor signal processing” sponsored by British Council, UK for a duration of three years (1st Jan., 2008-30th September, 2011)
* Reviewer of IEEE Transaction on Evolutionary Computation, IEEE Signal Processing Letter, IEEE Transaction on Neural networks, IEEE Transaction on Parallel and Distributed systems
* Reviewer of Journal of Memetic computing, Springer, International journal of Machine Learning and Cybernetics, Financial Innovation, Wireless network, Supercomputing, Complex and Intelligent Systems, Drug Safety, Scientific reports, BMC pharmacology and taxcology, BMC Infectious diseases, Springer.
* Reviewer of Neurocomputing, Elsevier, Signal Processing, Elsevier, Information Sciences, Data and Knowledge Engg., Applied Soft computing Elsevier.
* Reviewer of IET System biology, Electronics Letters
* Reviewer of IEEE International Conference on Biologically Inspired Computing and Applications (BICA 09), Bhubaneswar, 21-22 December 2009.
* Reviewer of International Conference on Emerging Trends in Soft Computing and ICT (SCICT 2011), Guru Ghasidas Vishwavidyalaya, Bilaspur, 16-17 March 2011.
* Reviewer of Swarm, Evolutionary and Memetic Computing Conference (SEMCCO 2012) and Fuzzy and Neural Computing Conference (FANCCO 2012), Bhubaneswar, December 20th to 22nd , 2012.
* Reviewer of Swarm, Evolutionary and Memetic Computing Conference (SEMCCO 2014) and Fuzzy and Neural Computing Conference (FANCCO 2014), Bhubaneswar, December 18th-20th, 2014.
* Reviewer of International Conference on Power System(ICPS 2016), 4-6 March 2016, IIT Delhi.
* Reviewer of International Conference on International Conf. on Signal processing and machine intelligence, 22-24, Dec. 2017, IIT Indore.
* Reviewer of International conference on emerging technologies in data mining and information security (IEMIS 2018), University of Engg. and Management, Kolkata, 23-25 Feb. 2018.
* Reviewer of 8th International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA), NIT Surathkal, Karnataka, 4-5 Jan. 2020.
* Reviewer of ICMIB2020, IGIT Sarang, 19-20, Sept. 2020.
* Reviewer of ICMIB2021, IGIT Sarang, 18-20, Dec. 2021.
* Reviewer/TPC member of MISP 2022, NIT Raipur, 12-14 March 2022.
* Reviewer of 8th International Conference on Fuzzy Systems and Data Mining (FSDM 2022) held during November 4-7, 2022, China.
* Technical Committee Member/ Reviewer for International Conference on Biologically Inspired Techniques in Many-Criteria Decision-Making (BITMDM-2024) with the theme,” Advances in Multidisciplinary Research and Innovation".School of Engineering and Technology at Nagaland University, Dimapur, 6-7,December, 2024
* TPC reviewer (TPC) for **CICN 2024** (16th IEEE International Conference on Computational Intelligence and Communication Networks 2024), Dec 22-23, 2024.
* TPC/Reviewer of Signal processing, Communication and Embedded Systems 2024, Centurian University, Paralakhemundi 19 -21 Dec. 2024.
* TPC/Reviewer of 1st International conference on Machine learning and Data Science 2025, Centurian University, Paralakhemundi, 21-22, March 2025.
* TPC of MPCON 2025

## TPC/Reviewer of International Conference on Communication Systems and Network  Technologies (CSNT2025), VIT Bhopal, 7-8 March 2025.

# Reviewer of 11th International Conference on Fuzzy Systems and Data Mining  (FSDM2025) November 14-17, 2025, Chaozhou, Guangdong, China

TPC/Reviewer of 13th IEEE International Conference on Intelligent Systems and Embedded Design (ISED-2025) scheduled from December 17-19, 2025, at NIT Raipur, India.

 **Technical Session Chaired**

Chaired a technical session at National Conference on Advance Signal Processing, Andhra University, Visakhapatnam, 20-21 November 2009.

Chaired a technical session at International Conference on Advanced research applications in engineering and technology (Shaastrarth 2015), Bhilai, 29-30 June 2015.

Chaired technical session at IEEE conference on Electrical. Electronics and Optimization Techniques, Chennai, 3-5 March., 2016.

* Chaired technical session at IEEE International Conference on Signal processing, communication, power and embedded system (SCOPES), Centurion University, Paralakhemundi, 3-5 Oct. 2016.
* Chaired technical session at IEEE International conference on power, control, signals and instrumentation engineering (ICPCSI 2017), Saveetha Engg. College, Chennai during 21-22 September 2017.
* Chaired technical session at 4th International Conference on Machine Intelligence and Signal Processing(MISP), NIT Raipur, 12-14 March 2022.

 **Invited Talks Delivered**

* Delivered an invited talk on “Artificial Neural Network and its applications” to B. Tech, M.Tech. students and faculty members of Dadi Institute of Engineering and Technology, Vishakhapatnam during 10-11 Dec. 2010.
* Delivered an invited talk on “On DNA Microarray data analysis”, in National Workshop on Genomic Signal Processing at Jawaharlal Nehru Technical University Kakinada during 19-20 March 2011.
* Delivered an invited talk on “Soft computing applications to system identification and channel equalization” at AICTE sponsored National Workshop on Advanced Digital Signal Processing and its applications at Gyatri Vidya Parisad College of Engineering for Women, Vizag during 2-4 July 2011.
* Delivered an invited talk on “Data mining applications using Soft and evolutionary computing” at National conference on Recent trend in Data mining at Orissa Engg. College, Bhubaneswar during 3-4 Sept. 2011.
* Delivered an invited talk on “Application of Neural Network to Computational Finance” at National symposium on Where is Intelligent Computing at C. V. Raman College of Engg., Bhubaneswar during 9th Sept. 2011.
* Delivered an invited talk on “System Identification using Genetic Algorithm” at AICTE sponsored Faculty development program on Advanced Signal Processing Algorithm: It’s Application in Engineering Research(ASPA)” at Centurian University, Bhubaneswar held during 17-30 June, 2013.
* Delivered an invited talk on “Literature review” in the Interaction Programme for Ph. D. students organized by UGC-Academic Staff College of Guru Ghasidas Vishwavidyalay, Central University, Bilaspur held during 21/03/2014 to 11/04/2014.
* Delivered an invited talk on “Financial forecasting”, in the One Day workshop organized at Rungta Institute of Technology, Bhilai on 13th September 2014.
* Delivered an invited talk on “Soft computing applications to financial data prediction”, in IEEE conference on Electrical. Electronics and Optimization Techniques, Chennai, 3-5 March., 2016.
* Delivered an invited talk at Workshop on Big Data analytics : Deriving causal inferences using statistical & computational techniques , NIT Surathkaul, 1-2 April 2016.
* Delivered an invited talk at International Conference on Signal processing, communication, power and embedded system (SCOPES), Centurion University, Paralakhemundi, 3-5 Oct. 2016.
* Delivered and invited talk at International Conference International Conference on recent trends in engineering, science and technology, St. Peter’s Engg. College, Hyderabad, 25-27 Oct. 2016.
* Delivered and invited talk at IEEE International conference on power, control, signals and instrumentation engineering (ICPCSI 2017), Saveetha Engg. College, Chennai during 21-22 September 2017.
* Delivered an Invited talk at IEEE International Conference on Recent Innovations in Electrical, Electronics and Communication Engg.(ICRIEECE 2018), KIITS university, Bhubaneswar during 27-28th July 2018.
* Delivered an Expert Lecture on ‘Machine Learning applications to Data Mining’, Raghu Institute of Technology, Vishakhapatnam,29th Dec. 2018.
* Delivered an Expert Lecture on “Introduction to Soft Computing” at Two days workshop on Application of Soft Computing techniques in Agricultural Engineering”, BRSM CoIIege of Agricultural Engineering and Technology & Research Station, Mungeli during 6-7 March, 2020.
* Delivered(Online) an Invited Talk in AICTE sponsored online STTP on Machine Learning and Its Applications(Phase –II), Lendi Institute of Engg. & Technology, Vijayanagaram during 23-28 Nov.

2020.

* Delivered (Online) an Invited Talk in AICTE sponsored online STTP on Advance & Emerging trends in signal processing using machine learning, GIET University, Gunupur, Odisha during 14-26, December 2020.
* Delivered (Online) an Invited Talk in AICTE sponsored online STTP (Phase II) on ‘Hands on Training on MATLAB and Advanced Optimization Techniques’, held in Department of Mechanical Engineering, Government College of Engineering, Bargur, Krishnagiri District, Tamilnadu during 18th to 23rd January 2021.
* Delivered (Online) an Invited Talk in AICTE sponsored online STTP (Phase III) on ‘Hands on Training on MATLAB and Advanced Optimization Techniques’, held in Department of Mechanical Engineering, Government College of Engineering, Bargur, Krishnagiri District, Tamilnadu during 15th to 20th Feb 2021.
* Delivered (Online) an Invited Talk on “How to write good journal papers” in ICSSR sponsored 10days online research methodology course on Quantitative research methods and use of statistical software for social science researchers, Dept. of Education, GGV Bilaspur, 13-24, Dec. 2021.
* Delivered online talk on “ML and its applications for social research problems” at ICSSR sponsored two weeks capacity building programme on research methodology in social sciences for faculty members/research scholars from May 18, 2022 to May 31, 2022, GGV Bilaspur. (27th may 2022)
* Delivered online talk on “ML and its applications for social research problems” at FDP/STP(online) on AI, ML, Block chain and IoT, UGC-HRDC, Jai Narain Vyas University, Jodhpur held during 13-19 September 2022. (14th September 2022).
* Resource person for Value added course on Python and Machine learning, 12-22 Nov 2022, Chaitanya Science and Arts College, Champa. (12/11/2022)
* Delivered online talk on “Neural networks and its applications for social science research” at one week FDP on Applications of Machine Learning in Social Science Research, GGV, 21-25 February 2023. (24/02/2023)
* Delivered online talk on Introduction to MATLAB at One week online FDP on Data driven research with advanced data analysis tools, Bilaspur University, 20-26 Sept. 2023. (26/09/2023).
* Delivered an online talk on “Healthcare data analytics using Deep learning” at ATAL FDP, Sambalpur University Institute of Information Technology, Odisha held during 14th Sept to 19th Sept. 2025, (18/092025) 90 minutes.
* Delivered an online talk on “Healthcare data analytics using machine and deep learning” at Refresher course on Various ML applications and Techniques”, HRDC, GGV, Bilaspur held during 15th Sept to 27th Sept. 2025. (16/09/2025) 90 minutes.

**Workshop/Symposium/Conference conducted**

* Convener of DST sponsored National Workshop on “Swarm Intelligence : Theory and Applications, SOA University, Bhubaneswar held during 20-21 March 2010.
* Organizing committee member of Symposium on “Where is intelligent computing?” held at C. V. Raman College of Engg, Bhubaneswar organized by International neural network society(INNS) Indian Regional Chapter during 9th September 2011.
* Convener of SERB(DST) and CGCOST sponsored National Conference on Data Analytics, Machine Learning and Security held during 15-16 Feb. 2018 at GGV, Bilaspur.
* Organizing member of Prof. L. A. Zadeh Memorial Lecture Series, Dept. of CSIT, GGV Bilaspur, 20-28 Oct, 2021.
* Member Coordinators of One week online FDP on Emerging Trends of Machine learning and applications, Dept of CSIT, GGV Bilaspur, 7th -11th March 2022.
* Convener of SERB and CGCOST sponsored National Conference on Machine Learning, deep learning and IOT, GGV Bilaspur during 19-20 January 2023.
* Event organizer for SERB sponsored – Student Internship (Virtika) under Accelerate Vigyan program, 1-31st March 2024.

**International Conference organized**

* Member of the organizing committee of IEEE International Conference on Biologically Inspired Computing and Applications (BICA 09), Bhubaneswar, 21-22 December 2009.
* Member of the organizing committee of IEEE International Conference on Energy, Automation, and Signals (ICEAS-2011), Bhubaneswar held during 28-30, Dec. 2011.

Member of the organizing committee of IEEE International Conference SCOPES 2016, Paralakhemundi, 3-5Oct. 2016.

Program committee member of MISP2022 (4th International Conference on Machine Intelligence and Signal Processing (MISP2022)), NIT Raipur 12-14 March 2022.

**Membership in professional bodies** : Senior Member IEEE(90528410), USA

 Member of Association of Agrometerologists, Gujrat, India

**Foreign Visits:**

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| Sl. No. | Country Visited | Year | Purpose |
| 1 | Kota Kinabalu, Malyasia | 2006 | Paper presentation |
| 2 | Singapore | 2007 | Paper presentation (CEC 2007) |
| 3 | University of Edinburgh, Scotland, UK | 2008 | Collaborative research work (UKIERI Project) |
| 4 | Trodheim, Norway | 2009 | Paper presentation(CEC 2009) |
| 5 | University of Edinburgh, Scotland, UK | 2009 | Collaborative research work (UKIERI Project) |
| 6 | University of Edinburgh, Scotland, UK | 2010 | Collaborative research work (UKIERI Project) |
| 7 | University of Sheffield, UK | 2011-12 | Postdoctoral Research work |
| 8 | University of Warwick, UK | 2012 | Research discussion |

**Conference/Workshop attended and presented papers:**

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* Participated and presented in National Conference on Machine learning, Deep Learning and IoT, GGV, Bilaspur, 19-20,Jan. 2023.
* Participated and presented in National Seminar on Impact of Computer Science and IT on modern society, Govt. Science College, Bilaspur, 18-19 Jan. 2020.
* Participated and presented in IEEE conference on Electrical. Electronics and Optimization Techniques, Chennai, 3-5 March., 2016.
* Participated and presented in AICON, 2015.
* Participated and presented in IEEE International conference on Power, Communication and Information Technology, Bhubaneswar,15-17 Oct. 2015.
* Participated and presented in International Conference on advanced research applications in engineering and technology (Shaastrarth 2015), Bhilai, 29-30 June 2015.
* Participated and presented in International Seminar on Non-Conventional Energy Sources for Sustainable Development of Rural Areas, 21-22, March 2015, Bhillai.
* Participated and presented in IEEE Conference on Electrical, electronics, signals, communication and optimization (EESCO), Vishakhapatnam, during 24-25,Jan 2015.
* Participated in the 5th National Symposium on Frontiers of Engineers sponsored by Indian National Academy of Engineering (INAE), New Delhi at Siksha O Anusadhan University, Bhubaneswar during 3-4th August 2010.
* Attended and presented paper at IEEE International Conference on Biologically Inspired Computing and Applications (BICA 2009), Bhubaneswar during 20-22 Dec. 2009.

**FDP/Summer/Winter Courses attended**

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| --- | --- | --- | --- |
| 1. | 21st Orientation Program | 21Days(11/05/2015 to 6/6/2015) | UGC-HRDC, GGV, Bilaspur |
| 2. | Refresher course on Advances in Engineering and Technology | 5th June to 24th June 2017 (18days) | UGC-HRDC, GGV, Bilaspur |
| 3. | Nature inspired computing  | 5days (2-6 April 2015) | Malviya National Institute of Technology Jaipur |
| 4. | ARPIT refresher course on Neural Network and Deep Learning | 01/11/2018 to 28/02/2019 | ARPIT,UGCProf. Laxmidhar BeheraIIT Kanpur |
| 5 | Online Faculty development Program on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB | 13/07/2020 to 24/07/2020 (12 days) | MNIT Jaipur, NIT Patna and IIITDM, Jabalpur |
| 6 | TEQIP III sponsored One week online Faculty Development program on Artificial Intelligence and Machine learning in Healthcare | 27/07/2020 to 31/07/2020 | Birla Institute of Technology, Mesra |
| 7 | Online FDP on Machine learning with business applications | 24/08/2020 to 28/08/2020 | NIT Warangal, Telegana |
| 8 | Online International Workshop on Climate Smart Agriculture : Opportunities and Challenges | 23/10/2020 to 27/10/2020 | NIT Surathkaul, Karnatak |
| 9 | SPARC Online Indo-Japan 5days workshop on climate resilient precision agriculture to enhance the natural capital in developing countries: an inclusive wealth approach | 8/03/2021 to 12/03/2021 | NIT Surathkaul, Karnatak |
| 10 | One day workshop on NEP 2020 | 29/10/2021 | HRDC, GGV, Bilaspur |
| 11 | One day IP awareness/training program under National Intellectual Property Awareness Mission(NIPAM), GOI | 09/02/2022 | Civil Engg. Dept., GGV, Bilaspur |
| 12 | One week online FDP on Machine learning in speech and audio processing | 21/02/2022-25/02/2022 | Birla Institute of Technology, Mesra |
| 13 | One week online FDP on Emerging trends in machine learning and its applications | 7/03/2022 to 11/03/2022 | CSIT, GGV, Bilaspur |
| 14 | SPRAC sponsored Five Day International Workshop on “Progress in Adoption of Sustainable Agriculture in India: Barriers and Opportunities” | 25/04/2022 to 29/04/2022 | NIT Surathkaul, Karnataka |
| 15 | UGC sponsored online workshop on NEP 2020 : Academic bank of credit | 27/06/2022 | HRDC, GGV Bilaspur |
| 16 | UGC sponsored online workshop on NEP 2020 Multidisciplinary | 28/06/2022 | HRDC, GGV Bilaspur |
| 17 | UGC sponsored online workshop on NEP 2020 :Good Academic Research Practices/Academic research Integrity  | 30/6/2022 | HRDC, GGV Bilaspur |
| 18 | UGC sponsored online workshop on NEP 2020 : Internationalization of higher education | 30/06/2022 | HRDC, GGV Bilaspur |
| 19 | Online Faculty development Program on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB(AOT-2022) | 8-19 August 2022 | MNIT Jaipur, NIT Patna and IIITDM Jabalpur |
| 20 | Workshop on Character Building and total personality development | 19-21 May 2023 | IQAC, GGV Bilaspur |
| 21 | Online Workshop on “NEP- orientation and sensitization programme”  | 04-13 March 2024 | HRDC, GGV Bilaspur |
| 22 | Two days training Workshop on the development of self-learning material (SLM) preparation | 13-14 Dec. 2024 | GGV Bilaspur and STRIDE, IGNOU, New Delhi |

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**Co-curricular activities :**

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***G. G. Vishwavidyalaya, Central University, Bilaspur***

* Computer Lab-in-charge during 1/1/2013-30/06/2013.
* Member of the Doctoral Research Committee during 1/1/2013 – till date
* Member of the Departmental purchase committee during 1/1/2013 – till date.
* Departmental Examination Coordinator during 1/07/2013-30/06/2014, 1/07/2018 -30/6/2019.
* Departmental Coordinator of Integrated UG/PG Course during 1/07/2013-30/6/2014.
* Faculty advisor for B.Sc. First semester students for the academic session 2013-14.
* Member of Admission Committee during July 2014-15, July 2015-16, July 2016-17, July 2017-18 and 2018-19.
* Faculty-in-charge students’ attendance for July 2014-June 2015 session and July 2015 –June 2016..
* Lab-in-charge of Digital electronics for 2014-15 and 2015-16 sessions.
* Question setter of VET 2015(MCA) and VERT 2015(Ph. D.)
* Member Skill development cell, GGV from 2016-2018.
* Question setter and examiner for Bilaspur University, Bilaspur
* Question setter for Sundarlal open university, Bilaspur
* Faculty-in-charge IUMS, 2016-17
* Member of technical verification committee(PC), 2016.
* NIRF data verification coordinator, 2016.
* Member of Flying-sqaud July –Dec.2016.
* Faculty in charge Training and Placement(Departmental) July 2017-June 2018.
* Faculty-in-charge Exam(Unit Tests) from July 2018 to June 2019.
* Member of student feedback, 2018-19..
* Member of Smart Class room, UTD
* Member of UGC-Care journal list of GGV
* Member of overall data validation for NIRF 2019.
* Question setter for Sagar University, MP.
* Faculty-in-charge Time Table July 2019 –June 2020.
* Member of overall data validation for NIRF 2020.
* Member of student feedback, 2019-20.
* Faculty-in-charge Time Table July 2020 –June 2021.
* Member of overall data validation for NIRF 2021.
* Online MCA admission in charge 2020-21
* PhD Co-coordinator 2020-21
* Faculty-in-charge Time Table July 2021 –June 2022.
* Member of IQAC 2021-Feb.2023
* Subcommittee Member of NEP 2020 taskforce.
* Member of canteen monitoring committee, 2021 – till date
* Member of NIRF 2022(Research) committee, 2021-22
* Member of NIRF 2022 overall data verification committee, 2021-22.
* Faculty Coordinator of School e-Magazine ‘MathematiCom’
* Member of Antiragging Committee for the session 2021-22, 22-23, 23-24.
* Course Coordinator of MSc.for the session 2022-23.
* Member of recruitment scrutiny committee (social Work), 2022,
* Member of Verification Committee(Social work) 2022.
* Member of committee for Promotion of University Research and Scientific Excellence  2022-23 (PURSE)
* Member of committee for Sophisticated Analytical and Technical Help Institutes (SATHI) Programme 2022.
* Hostel Warden 27/10/2022 to till date.
* Acted as Judge for short film event of Science Fest 2023.
* MSc(CS)Course Coordinator 2023-24
* Lab-1 In-charge 2023-24
* Member of Distance Education Program committee.
* Member of Academic Council, GGV Bilaspur, Sept. 2023-Oct. 2024
* Member of Standing Committee(Academic), GGV Bilaspur, Sept. 2023-Oct. 2024
* Asst. Exam Superintendent (CSIT Building) from Dec. 2023-Sept. 2024.
* Member of Computer Centre monitoring committee, Jan. 2024 to till date
* Member of UGC Ushav Portal data filling, 2024
* Member of Mock Peer team visit for NAAC 2024.
* Coordinator for PhD (exempted) admission, 2024
* Member of Antiragging Committee, 2024-25
* Deputy Proctor, 2024-25
* Course Coordinator, MCA 2024-25
* Dept. Admission committee member(UG/PG/PhD) 2024-25
* Member of departmental disciplinary committee, 2024-25
* Member of departmental Write-off committee
* Member of Proposal writing for Research Policy Cell, GGV May 2025
* Co-PI of FIST 2025 (Submitted)
* Member for development of Apprenticeship based BSc (CS) Program May 2025
* Member of BSNL WIFI services in campus April 2025
* Member of Students Insurance policy April 2025
* Member Anti Ragging Committee 2025-26
* Member of proposal writing for Policy Research Cell May 2025
* Member of Dept. Admission Committee 2025-26
* Coordinator PG Admission 2025-26
* Coordinator BCA-I 2025-26
* Member Dept academic planning committee 2025-26
* Coordinator departmental Lab 2025-26
* Member dept. discipline committee 2025-26
* Coordinator Dept. AAA, 2025-26
* Centre Suptd. for LDC test, 5-6 july 2025
* Member of BSNL wifi installation Committee, 2025
* Member of B.Sc(CS) ABDP of CSIT, 2025

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**Subjects Taught (UG/PG/Pre Ph. D.):**

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* Programming methodologies using C
* Data Structure using C
* Computer Programming and Numerical Analysis
* Computer based numerical methods
* Probability and Statistics
* Introduction to Artificial Neural Network
* Data Mining and Data Warehousing
* Soft Computing
* Neural Networks and Deep Learning
* Digital Signal Processing
* Machine Learning
* Management information system
* E-Commerce
* Data Analysis and Visualization (VOC)
* MATLAB LAB(MCA V)/ Soft Computing Lab(BSc V)/Data Mining Lab.(BSc VI, MSc.III), Data Analytics Lab. (BSc. IV)
* Nature Inspired Computing (Pre PhD. Course)
* Fundamentals of Research in Science(Pre PhD Course)

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**List of Referees :**

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1. Prof. Ganapati Panda, FNAE, FNASc., SMIEE Professional Fellow,

Ex-Professor, School of Electrical Sciences and Ex-Deputy Director Indian Institute of Technology Bhubaneswar Samantapuri, Bhubaneswar-751013, Odisha Phone : 0674 - 230106, Cell : 9437048906 Email : ganapati.panda@gmail.com / gpanda@iitbbs.ac.in

1. Prof. Banshidhar Majhi

Ex-VC, VSSUT Burla, Ex-Dorector, IIITDM Kanchipuram and

Professor, Dept.of Computer Science and Engineering

National Institute of Technology Rourkela, Odisha

Phone : 0661-2462355 Cell : 9437221124

Email : bmajhi@nitrkl.ac.in / bm\_nitrkl@yahoo.com

1. Prof. Siba Kumar Udgata

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