Personal Information

Name: Dr Sandip Garai

Designation: Scientist (Agricultural Statistics)

Mail: sandip.garai@icar.gov.in , sudipasandipniani23@gmail.com

Phone: 8918799672

Academics

Dr Sandip, born and raised in Radhanagar, Mahata, Purba Bardhaman (West Bengal). He graduated in BSc (Agriculture) Honors from Palli Siksha Bhavana (Institute of Agriculture, Visva Bharati, West Bengal) in the year 2018. Thereafter, he obtained Masters' degree in Agricultural Statistics from Post Graduate School, ICAR-Indian Agricultural Research Institute (IARI, New Delhi) in 2020. Further, he enrolled for Doctor of Philosophy (PhD) degree in the same university before joining Agricultural Research Service (ARS) in June, 2023. He is a recipient of ICAR-Junior Research Fellowship (2018), ICAR-Senior Research Fellowship (2020) and ICAR-NET (2022).

Research

Areas: Artificial Intelligence, Modeling and Forecasting, Data Science, Wavelet Analysis, Feature Selection, Feature Extraction, Multivariate Analysis, Data Mining and Knowledge Discovery, Data Clustering, Statistical Learning, Applied Artificial Intelligence, Data preparation, Data Base Management, Genomic Analysis, Bioinformatics, Big Data, Software development, and Web-based Solution.

Software Knowledge: Excel, Access, MATLAB, MYSQL, Python, R, and SAS

Publications

Peer Reviewed/Refereed Journals:

Paul, R. K. & Garai, S. (2021). Performance comparison of wavelets-based machine learning technique for forecasting agricultural commodity prices. Soft Computing, 25(20), 12857-12873.

Paul, R. K. & Garai, S. (2022). Wavelets based artificial neural network technique for forecasting agricultural prices. Journal of the Indian Society for Probability and Statistics, 23(1), 47-61.

Garai, S. & Paul, R. K. (2023). Development of MCS based-ensemble models using CEEMDAN decomposition and machine intelligence. Intelligent Systems with Applications, 18, 200202.

Garai, S., Paul, R. K., Rakshit, D., Yeasin, M., Paul, A. K., Roy, H. S., Barman, S. & Manjunatha, B. (2023). An MRA based MLR model for forecasting Indian annual rainfall using large scale climate indices. International Journal of Environment and Climate Change, 13(5), 137-150.

Garai, S., Paul, R. K., Rakshit, D., Yeasin, M., Emam, W., Tashkandy, Y. & Chesneau, C. (2023). Wavelets in combination with stochastic and machine learning models to predict agricultural prices. Mathematics, 11(13), 2896.

Garai, S., Paul, R. K., Kumar, M. & Choudhury, A. (2023). Intra-annual national statistical accounts based on machine learning algorithm. Journal of Data Science and Intelligent Systems. https://doi.org/10.47852/bonviewJDSIS3202870

Software or Packages

R packages (Repository: CRAN): 'AllMetrics', ‘AriGaMyANNSVR’, ‘CEEMDANML’, ‘CompareMultipleModels’, 'DescribeDF', 'MissingHandle', ‘WaveletML’, ‘WaveletMLbestFL’.