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Forecasting the carbon dioxide emission of china based on the brain storm optimisation algorithms

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This paper seeks to forecast the carbon emission of China using the BrainStorm Optimisation Algorithms (BSO). In recent years, the concentration of carbon dioxide emission of China is on the ascendancy. Yet, accurate prediction of air quality remains at the fringes of current studies. Though, several researchers have attempted to predict air quality of most countries; most studies adopted approaches varying from ordinary linear regressions, multivariate regressions, fuzzy logic to conventional swarm intelligence, which mostly leads to but inaccurate predictions owing to imminent inherent parameters problems in these approaches. Hence, the vital need for accurate prediction of air quality into the future whilst using robust techniques. This is to aid in monitoring and implementing of precise policies and reforms, tailored specifically for China. Our study, therefore, employed an augmented Brainstorm optimization, originally proposed by Yushi S. for the prediction. Our study utilized the following paramount variables in recent literature on energy-environmental pollution nexus: energy consumption, economic growth, international trade and the carbon dioxide emission. Our findings revealed that the proposed Brainstorm optimization offer better prediction of the air quality in China when compared with the original BSO and the ARIMA model as it had better convergence speed, adaptive value, and better diagnostic error.

Biography

Kofi Baah Boamah, a distinguished Researcher with over 12 years teaching and research experience in the field of Energy Economics, Environmental Management, International Economics, International Trade, Applied Econometrics, Growth and Development, Foreign Direct Investments and Health Economics. He has several published articles in top Journals. He is currently with the Computational Centre for Social Sciences- School of Management, Jiangsu University, pursuing his PhD Studies.

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