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Abstract:

Wind speed and solar energy are 2 important key metrics which are widely used in renewable energy sources across the world. Because of their higher carbon substance and the procedures used to produce them, fossil fuels like coal, natural gas, and petroleum are examples of non-renewable energy sources that cannot be easily renewed. Machine learning approaches have been recently introduced to forecast renewable energy production, and energy forecasting. Numerous prediction techniques have serious flaws, such as high computational complexity and an incapability to ward simplify to diverse types of renewable energy sources. In this paper, Renewable Energy Forecasting (REF) in big data has been utilizing machine learning and deep learning. In this paper review two primary categories are (1) renewable energy forecasting in large data using machine learning, and (2) renewable energy forecasting in big data using deep learning. Finally deep learning approaches are best REF for efficient results. Datasets gathered from the Kaggle repository have been used to implement machine learning and deep learning techniques. Different performance metrics such as Root Mean Square Error (RMSE), Mean Absolute Error (MAE), Pearson Correlation Coefficient (r), and Nash Sutcliffe Efficiency (NSE) were used to verify the performance of the proposed model.



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Contents

1. Introduction

Energy forecasting has appeared to be a widespread concern with academics appropriate to the increasing impact of renewable energy in the present day power grid. The most popular REF is biofuels or biomass, wind, water, and solar energy. These energy sources are typically used for transportation fuels, heating, and power generation. The ability of renewable energy sources to endure makes them significant. This result will replace the decline of traditional energy sources like coal, oil, and nuclear power [1]. Additionally, using distributed renewable energy sources like hydroelectric, geothermal, solar, and wind power can have a positive impact on the environment.

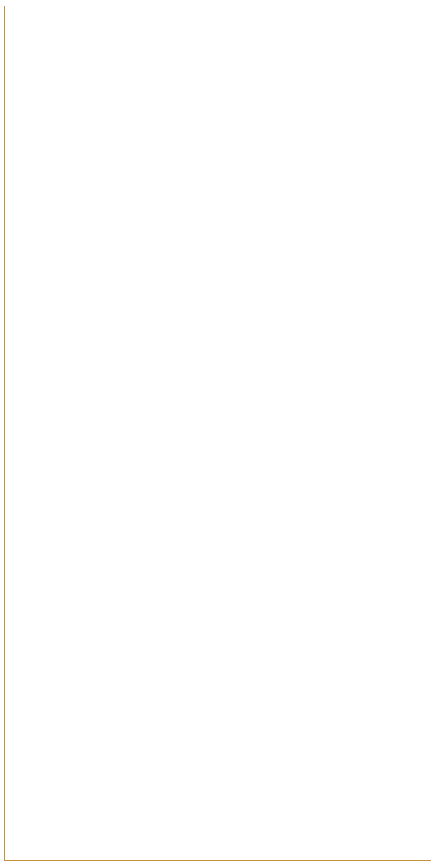
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