

This model is established on the MV-UIC-FA foundation for the joint ultra-short-term forecasting of source and load power in microgrids.

This research explored the use of machine learning to forecast renewable energy generation and improve the operation of microgrids, which are small-scale power grids.

{The experimental results demonstrated that the proposed resilient LSTM solution can accurately predict (around 90% R2 and 0.028 root mean squared error) PV power generation with minimum input data.

This article proposed machine learning-based short-term PV power generation forecasting techniques by using XGBoost, SARIMA, and long short-term memory network (LSTM) algorithms.

Aiming at the problem of power fluctuation caused by power prediction error in microgrid dispatching process, this paper proposes a day-ahead and intra-day dual-time scale power ...

Predicting electrical load is crucial for microgrid energy management. Short-term load forecasting (STLF) helps in optimizing energy management and load balancing within microgrids.

The growing integration of renewable energy sources into grid-connected microgrids has created new challenges in power generation forecasting and energy management. This paper explores the use of ...

Addressing this limitation, this study investigates the simultaneous correlation between source and load power in a microgrid and weather features, conducting research on the joint ultra ...

Our research offers a novel solution to the power flow prediction problem in microgrids, providing valuable insights for optimizing microgrid system dispatch and advancing power grid ...

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