Big Data Analysis of Solar Power Generation

With the innovative technical solution, using a data-driven decision engine to monitor power plants became possible. This article discussed two important use cases of advanced data ...

This study presents a novel approach to enhancing the security and accuracy of photovoltaic (PV) power generation predictions through secure aggregation techniques.

The research establishes a foundation for improving homomorphic encryption, enhancing key management, and creating a big data security ...

The paper focuses on two primary aspects: short-term forecasting of photovoltaic power generation and the exploration of electric vehicle user clustering addressed using artificial intelligence.

The study consists of many analytical phases, including exploratory data analysis, power generation data analysis, and inverter data analysis, which are carried out on two separate power ...

Solar power generation and sensor data for two power plants. This data has been gathered at two solar power plants in India over a 34 day period. It has two pairs ...

By analysing and interpreting vast amounts of data, data analytics in solar energy allows companies to optimise power generation through real-time monitoring of ...

Our analysis reveals a notable shift from statistical models toward machine-learning and deep-learning approaches, particularly from 2018 to 2022. Hybridization of models consistently ...

Google Scholar Joshi, S. et al. High resolution global spatiotemporal assessment of rooftop solar photovoltaics potential for renewable electricity generation. Nat. Commun. 12, 5738 (2021). ...

To this end, this review will systematically evaluate recent solar power forecasting methods, particularly those developed between 2021 and 2025, that are based on AI methods and ...

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