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Artificial Intelligence-Based Profit Strengthening of Wind Farm

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Artificial Intelligence-Based Profit Strengthening of Wind Farm

Completed Research Paper

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ABSTRACT

Ensuing the undertakings of the Paris Agreement of 2015 and the United Nations Climate Change conference of 2021, several nations are making every effort to decarbonize their electricity generation industries through the competent utility of renewable means. Wind power has reaped massive acceptance internationally as a substitute and low-carbon resource for electricity generation. In this research work, artificial intelligence has been exercised to heighten the profitability of a wind farm at a nearshore power generation site in India. A state-of-the-art amendment of the genetic algorithm has been projected to augment the design of two arbitrarily selected layouts. The optimization consequences corroborate the ascendancy of the projected procedure over the typical genetic algorithm and binary particle swarm optimization algorithm for expanding the annual profit of the wind power generation system.

Keywords

Artificial Intelligence, Genetic Algorithm, Layout Optimization, Profit Maximization, Wind Energy.