Patent Search

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Abstract:

IoT Integrated Fractional Order Control of Doubly Fed Induction Generator-Based Wind Energy System Powered by Artificial Intelligence ABSTRACT Ir fossil fuel energy sources have decreased in use as renewable energy sources have increased. Recent attention has been focused on wind energy as because it does not contribute to pollution. Due to changes in the stator's voltage and frequency, it is challenging to directly connect a doubly fed inc electrical grid. Unpredictability, inequity, and external disturbances can all affect a traditional grid-integrated wind energy conversion system. In light DFIG needs a high-performance back-to-back voltage source conversion and control system to transfer as much power as possible to the power grid machine and deep learning predictive diagnosis have gained in popularity, according to the study's evaluation, since they are inexpensive, require les diagnostic time, and are highly accurate. The machine learning and deep learning methodologies researched for this study can be implemented and integrated power environment in order to build a framework for the development of useful and accurate diagnostic tools. The use of these tools will dependability of the electrical grid, as well as the software requirements and implementation strategies.

Complete Specification

Description:DESCRIPTIONS
In recent years, global energy consumption has skyrocketed, making it more important than ever to extract fossil fuels. Statistics on the world's ene indicate that the need for power in society, technology, and the environment has been rising steadily. This trend indicates that coal will soon no lon generate electricity. It is anticipated that by 2030, more than 45 percent of all energy produced will be renewable, up from less than 30 percent in 2 requirements of the next, more stringent level of the Non-Zero Emission standard, STEPs would be required to increase the amount of renewable e the electrical needs of its members from 30% to 60%. In 2021, the International Renewable Energy Agency compiled a variety of facts to support th forecast. In 2020, the world will generate 2,802 GW of electricity, of which 732.4 GW will come from wind power. As wind power is progressively inte grid, it is crucial to comprehend how this new source of energy will impact the dependability of the power supply for energy-intensive manufacturi renewable energy sources will make it much easier to meet the world's future energy needs. Traditional energy sources offer less of a hazard becau being replaced with renewable and sustainable energy. Transitioning from conventional to renewable energy sources is occuring rapidly. AI techniq analysis have been used to control systems for DFIG-based wind turbines and renewable energy by the authors. It was determined that fuzzy contr machine/deep learning are the most effective techniques for building and enhancing contemporary AI computational systems. These approaches v for testing study findings and hotspots via simulation practises. Typically, AI-related applications are handled functionally by inventing, categorising examining the organisation of datasets. Using the new knowledge, unconventional control strategies will be implemented to increase wind turbine grid reliability. The authors will examine a straightforward control method for standardised and continuous operation. The frequency, speed, and v

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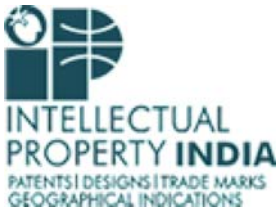

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TITLE OF INVENTION	IoT Integrated Fractional Order Control of Doubly Fed Induction Generator-Based Wind Energy System Powered by Artificial Intelligence
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APPLICATION STATUS	**Awaiting Request for Examination**

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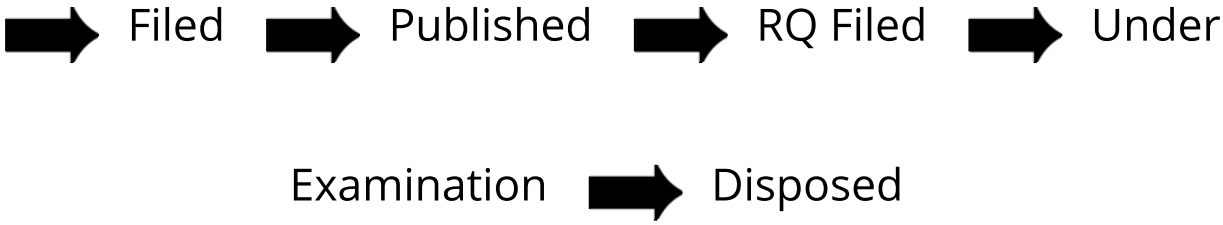

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