Slovenia artificial intelligence in renewable energy

This review specifically explored the applications of diverse artificial intelligence approaches over a wide range of sources of renewable energy innovations spanning solar ...

AbstractThe use of artificial intelligence (AI) has gained tremendous popularity in recent years, and it has become ubiquitous for use in the energy sector. ... review focuses on studies that highlight the realm of AI to benefit the energy sector as a key enabler to the growth of renewable energy sources from wind, solar, geothermal, ocean as ...

Integration of energy storage system and renewable energy sources based on artificial intelligence: an overview J. Energy Storage, 40 (2021), Article 102811, 10.1016/j.est.2021.102811 View PDF View article View in Scopus Google Scholar

By harnessing artificial intelligence (AI), organizations in the energy sector can help predict demand with greater precision, integrate renewable energy sources into power grids with greater ease, and enhance worker safety while extending the lifespan of assets in the field. ... Renewable energy integration and carbon emissions reduction: ...

Artificial intelligence in sustainable energy industry: Status Quo, challenges and opportunities. Author links open overlay panel Tanveer Ahmad a b, ... The total share of renewable energy is currently growing from about a 1/4% to about 45% in 2040 (from which PV contributes 11%, up from the current 2%) (IEA, 2019a). Recent developments have ...

The way we produce, distribute, and use clean energy is being revolutionized by artificial intelligence (AI), which is having a significant impact on the management and optimization of renewable energy systems. Artificial intelligence (AI) tools, such predictive analytics and machine learning algorithms, are crucial for tackling the problems that come with renewable energy, ...

ARTIFICIAL INTELLIGENCE FOR RENEWABLE ENERGY SYSTEMS Renewable energy systems, including solar, wind, biodiesel, hybrid energy, and other relevant types, have numerous advantages compared to their conventional counterparts. This book presents the application of machine learning and deep learning techniques for renewable energy system modeling, ...

Abstract: This paper"s main objective is to examine the state of the art of artificial intelligence (AI) techniques and tools in power management, maintenance, and control of renewable energy ...

Fuzzy Q-Learning seeks to increase renewable energy usage. For example, the surplus-to-demand ratio is high

when solar energy is plentiful in the middle of the day. To prove that the proposed algorithm increases the use of renewable energy, it is implemented in case 1 with the addition of penetration of renewable energy. In this scenario, the ...

The reliance on traditional energy sources has given rise to numerous global challenges, chiefly the escalating global warming crisis (Noori et al., 2024a, Noori et al., 2024b).The consequences, evident in disruptive climate changes that threaten ecosystems and human livelihoods, have spurred a discernible shift towards recognizing renewable energy sources as competitive ...

By harnessing artificial intelligence (AI), organizations in the energy sector can help predict demand with greater precision, integrate renewable energy sources into power grids with greater ease, and enhance worker safety while ...

It is worth noting that all series, except renewable energy, exhibit negative skewness. The positive skewness of the renewable energy market may reflect high market growth and investment opportunities, driven by technological innovation and government policy support. Therefore, the renewable energy market may be influenced by AI developments.

Since IRCAI was established in Slovenia with the support of the Slovenian government and UNESCO, the Slovenian Presidency provides an opportunity to create an active agenda for the use of AI in sustainable ...

After preparing the data for analysis, a detailed bibliometric analysis was conducted using the CiteSpace tool. This allowed for the visualization of collaboration and citation networks, identification of key authors and publications, and understanding of the main research trends and thematic evolution in the field of artificial intelligence and renewable energy.

IET Renewable Power Generation is a fully open access renewable energy journal publishing new research, development and applications of renewable power generation. Skip to Main Content ... Applications of Artificial Intelligence in Renewable Energy Systems. Pages: 1279-1521. 18 May 2022. Previous Issue | Next Issue. GO TO SECTION. Export ...

Renewable energy and sustainable resource management play crucial roles in the face of climate change. Creating well-optimised processes for efficient energy management is a complex task. However, statistics show that advanced technologies such as artificial intelligence (AI) and machine learning (ML) are increasingly significant in optimising and improving green ...

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Likewise, the presence of geopolitical risk positively moderates the interaction between artificial intelligence and renewable energy production, but its influence is relatively smaller than the direct impact of artificial intelligence. The results concerning RGDP demonstrate a beneficial impact on the production of renewable energy within the ...

Thid, artificial intelligence works on renewable energy development through technology effect and innovation effect. Fourth, climate finance also presents direct benefits to ...

Recently, the domains of artificial intelligence (AI) and renewable energy (RE) are increasingly overlapping. AI technologies are being employed more and more to support ...

The renewable energy (RE) is a powerful resource for the future global development in the context of climate change and resources depletion. Artificial intelligence (AI) implies new rules ...

The integration of renewable energy sources (RESs) has become more attractive to provide electricity to rural and remote areas, which increases the reliability and sustainability of the electrical system, particularly for areas where electricity extension is difficult. Despite this, the integration of hybrid RESs is accompanied by many problems as a result of ...

4 · To support such targets, Slovenia and Croatia have successfully pioneered a cross-border smart grid initiative, improving accessibility and integration of renewable energy.

Artificial intelligence for hydrogen-enabled integrated energy systems: A systematic review. Author links open overlay panel Siripond Mullanu a b c, Caslon Chua a, ... Renewable energy has been showing the highest growth rate worldwide, with an average yearly expansion of 2.6% annually between 2012 and 2040 [2].

Artificial intelligence is being used to safeguard utility infrastructure, advance the cutting edge of renewable energy research and help permit clean energy projects -- but simultaneously, the ...