Green AI: Driving Innovation for a Sustainable Tomorrow

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ABSTRACT

In recent decades, artificial intelligence (AI) has garnered substantial attention for its potential to revolutionize various sectors. Among its many applications, Green AI stands out as a vital and innovative approach aimed at addressing environmental challenges through the sustainable use of AI technologies. Green AI focuses on leveraging AI techniques to establish an eco-friendly environment, optimize resource usage, and minimize the environmental impact of human activities. This paper explores the key aspects of Green AI that revolutionizes sustainability by optimizing water management, cutting carbon emissions, and maximizing energy efficiency. Through intelligent automation and advanced analytics, it minimizes greenhouse gas emissions and drives renewable energy adoption. Its mission is to embed sustainability into business practices, creating a low-carbon, eco-conscious future. Furthermore, Green AI aligns with ESG principles by driving sustainability, regulatory compliance, and responsible innovation there is an urgent need for accelerated implementation to drive sustainability, optimize resources, and combat climate challenges. The global market for green technologies and sustainability is projected to experience rapid growth, with an estimated valuation of $134.9 billion by 2023, expanding at a CAGR of 29.5% from 2024 to 2030. This paper highlights the transformative potential of Green AI, emphasizing its role in driving technological innovation, supporting eco-conscious business practices, and shaping a sustainable future.

Keywords: Green AI, ESG Principles, Eco-conscious.

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