AI-Driven Optimization of Renewable Energy Systems

Drew Walker
PhD
Technical University of Denmark
Anker Engelunds Vej 1, 2800 Kongens Lyngby, Denmark

Adrian Roberts
PhD
Delft University of Technology
Mekelweg 5, 2628 CD Delft, Netherlands

Quinn Smith
PhD
Princeton University
Princeton, NJ 08544, USA

Abstract. This paper explores the use of artificial intelligence to optimize the performance of renewable energy systems. By leveraging AI algorithms, the study aims to enhance energy efficiency and reduce operational costs. The research includes simulations and real-world implementations, highlighting AI's role in advancing sustainable energy solutions.

Keywords: Artificial Intelligence, Renewable Energy, Energy Efficiency, Optimization, Sustainability

Introduction

The transition to renewable energy sources is essential for achieving sustainability goals. However, optimizing their performance presents significant challenges. This paper investigates the potential of artificial intelligence to address these challenges by optimizing renewable energy systems. Through the application of AI algorithms, we aim to improve energy efficiency and reduce operational costs. Our research encompasses both simulations and real-world implementations, demonstrating AI's capacity to advance sustainable energy solutions. The findings highlight the transformative impact of AI on renewable energy systems, suggesting a path forward for enhancing their integration and performance.

References

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