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Towards AI-Driven Discovery of Renewable Energy Materials: Thermoelectrics, Semiconductors, Catalysts, and More

A new era of optimisation and accurate forecasting has begun by incorporating artificial intelligence (AI), optimisation algorithms and hybrid models into renewable energy systems. The presentation explores state-of-the-art hybrid models and various optimisation algorithms that make solar energy more predictable and efficient in parameter extraction and maintaining sustainable renewable resources. Forecasting, parameter extraction, and energy management are essential components of sustainable energy systems undergoing a fundamental transformation due to advanced AI applications. Additionally, dive into how advancements in AI, hybrid forecasting models, and optimisation algorithms tackle renewable energy generation's inherent unpredictability and inefficiency, maximising efficiency, and minimising losses.

Biography

Dr. MANOHARAN MADHIARASAN completed his Bachelor of Engineering degree in Electrical and Electronics Engineering in the year 2010 from Jaya Engineering College, Thiruninravur, under Anna University, Tamil Nadu, India; his Master of Engineering degree in Electrical Drives and Embedded Control (Electrical Engineering) in the year 2013 from Anna University, Regional Centre, Coimbatore, under Anna University, Tamil Nadu, India and his Ph. D. (Electrical Engineering) in the year 2018 from Anna University, Tamil Nadu, India.

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