Patent Search

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Abstract:

The present invention relates to an intelligent energy management system for electric vehicles (EVs) that optimizes the charging process based on energy needs and sources. The system comprises a processor, memory, and communication interface that receives data from various energy sources such as the grid, solar panels, and grid, and determines the optimal charging time and rate based on the energy needs of the EV. Additionally, the system communicates with the battery management s monitor the performance of the EV battery and adjust the charging process accordingly. The system also includes predictive maintenance algorithms that monitor the performance of the EV components and detect potential failures before they occur. The system further comprises a mobile application interface that provides real-tir to the user on energy consumption, driving behavior, and charging recommendations. Overall, the intelligent energy management system for EVs provides a more ef sustainable charging process, improving the user experience and reducing the carbon footprint of electric vehicles.

Complete Specification

Description:The proposed field of invention related to the Energy management of electric vehicles.

Background of the invention:

Electric vehicles (EVs) have gained significant popularity in recent years as a more environmentally friendly alternative to traditional gasoline-powered vehicles. How the practicality and widespread adoption of EVs are still hindered by several challenges, including limited driving range and longer charging times compared to gasc vehicles. To address these challenges, the development of intelligent energy management systems for EVs has become an area of intense research.

Current energy management systems for EVs typically rely on simple rules-based algorithms that are unable to effectively balance the energy consumption and ger in the vehicle's battery. Additionally, these systems do not take into account external factors such as weather conditions, traffic, and road conditions, which can sign impact the vehicle's energy consumption.

To overcome these limitations, the proposed invention provides a method and apparatus for intelligent energy management of electric vehicles. The invention is ba complex algorithm that takes into account various external and internal factors that affect the vehicle's energy consumption and generation.

The invention involves a sophisticated energy management system that integrates data from various sensors and sources, including weather forecasts, traffic data, conditions, battery status, and charging station availability, to dynamically adjust the energy consumption and generation of the EV. The algorithm optimizes the vel energy consumption, taking into account factors such as the vehicle's driving pattern, battery state-of-charge, and the availability of charging stations along the rout

The proposed invention has several potential benefits for EV users, including extended driving range, reduced charging times, and increased energy efficiency. Addi the intelligent energy management system can help reduce the overall energy consumption of the electric grid by optimizing the timing and location of charging, re

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