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IoT-Based Wireless Solar EV Station

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Abstract: *To promote sustainable transportation and reduce reliance on polluting fossil fuels, this project aims to develop an eco-friendly electric vehicle (EV) charging system. With the increasing adoption of EVs, the need for clean and efficient charging solutions has become imperative. However, current EV charging systems often rely on grid electricity generated from fossil fuels and use cumbersome cables that wear out over time. Moreover, these systems lack real-time monitoring and optimization capabilities. To address these issues, we have implemented a smart EV charging system that harnesses solar energy and utilizes wireless charging technology controlled by an Arduino microcontroller. The system enables efficient and cable-free power transfer to EVs. This innovative solution has applications in sustainable transportation systems, offering advantages such as reduced greenhouse gas emissions, increased convenience, and improved energy efficiency. By optimizing EV charging, our system contributes to a cleaner and more sustainable future*

Keywords: Electric Vehicles (EVs), Wireless Charging, Solar Energy, Photovoltaic (PV) Panels, IoT, Arduino UNO, ESP8266, ThingSpeak, MPPT Controller, DC-DC Booster, Copper Coils, IR Sensor, LCD Display, Renewable Energy, Sustainable Transportation, Real-time Monitoring, Smart Charging Infrastructure, User Convenience, Scalability, Eco-Friendly Design

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