

# IoT-Enabled EV Charging Station with Solar Power

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**Abstract:** *In this project, a solar-powered electric car charging station that keeps track of the module's maximum power output via the internet of things is being developed. Along with population development, the usage of vehicles is increasing. Most modern vehicles use fossil fuels like petrol, diesel, LPG, etc. to power them. A nonrenewable resource, fossil fuels can only be utilised once. In an effort to build a sustainable, easily available alternative energy source, a variety of vehicle engines have been created; one such energy source is electrical energy. Due to its many advantages, electric-powered automobiles are now becoming the standard worldwide after years of successful development. Therefore, electric vehicle charging stations are necessary. To make access easier, we built a solar-powered charging station. Solar energy is a renewable energy source that is easily acquired from the sun. Energy from the sun is measured using solar cells, stored in batteries, and then delivered to the cloud for storage using LDR sensors and an Arduino controller*

**Keywords:** Servo motor, MPPT controller, rechargeable battery, LDR, LCD, solar panel, DC-DC converter, modem, Arduino .

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