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Smart Station for Electrical Vehicle using Pantograph

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Abstract: *Electric vehicles (EVs) are being considered as a viable solution for ecological and economic concerns such as global warming, glasshouse gas emissions, and fossil fuel resources reduction. In such vehicles, wireless charging has become an emerging challenge. Currently, the widely used method to charge EVs is plug-in charging of Evs but it has serious disadvantages such as proper maintenance, getting shocked while connecting the charger etc. The alternative method that can be utilized to convey energy to the electric vehicle is by using 'PANTOGRAPH'. With numerous advantages, electric vehicle technology has experienced various difficulties like battery charging, expanding electric charges, and accessibility of charging stations, and battery life assessment. The smart charging system for EVs is proposed in this project. Vehicle detection at the charging station is detected employing an ultrasonic sensor. The charging system after sensing the vehicle battery voltage is described in the later section. The proposed system provides a highly efficient, cheaper, and environment-friendly solution for charging EVs.*

Keywords: Electrical Vehicle, Charging Station, Pantograph, Microcontroller, Automation, Ultrasonic Sensor;

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