

Smart Streetlight System for Road Safety and Automatic Emergency Alerts: “Enhance road Safety and Ensures Swift Emergency Response by Adjust Lighting and Automatically Notify Emergency Services using IoT

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Abstract: *In light of increasing urbanization and road traffic, ensuring road safety and effective emergency response is essential. The Intelligent Street Light System (ISLS) utilizes advanced sensors and communication technologies to dynamically adjust lighting based on the presence of vehicles and pedestrians, enhancing visibility and reducing nighttime accident risks.*

It features emergency alert mechanisms that notify local authorities and emergency services of incidents, ensuring swift responses. By incorporating IoT technology, the ISLS optimizes energy consumption and reduces maintenance costs while fostering communication between streetlights, vehicles, and emergency services, thereby minimizing response times in critical situations. This system improves pedestrian safety, contributes to smart city development, and represents a significant advancement in urban infrastructure, enhancing community safety.

Keywords: Microcontroller -Arduino uno, gsm -800L, Sensor- I R, LDR

