

# Potholes and Humps Detection System in Real-Time

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**Abstract:** *Potholes are formed as a result of unavoidable wear, tear and weathering of roads. It causes uneasiness to the travelers and may also lead to death due to vehicle accidents. The main purpose of the project is to prevent the road accidents occurring in and around the world. Many people do not slow down as they fail to recognize the potholes and humps on the road while driving, which leads to life hazard or vehicular damage. The proposed method involves the usage of cameras and sensors to collect the data, identify and distinguish between the humps and pothole region and alert the driver with different buzzer sounds. The pothole detection can be achieved using YOLOv4 algorithm, which is efficient in spotting the potholes. The hump detection is carried out using the ultrasonic sensor and Arduino. Therefore, in order to avoid accidents in significant number we have come up with the pothole and hump detection project for social good.*

**Keywords:** potholes, humps, accidents, cameras, sensors, YOLOv4 algorithm, buzzer, ultrasonic sensor, Arduino

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