

# Blind Spot Monitoring and Warning System

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**Abstract:** *A person driving a passenger car depends on the rearview mirror and two side mirrors to observe the surroundings to see vehicles approaching from behind. However, an approaching vehicle may enter an area outside the driver's field of vision, making it invisible to the driver. Such an area is known as the blind spot zone (BSZ). Traffic accidents occur daily due to risky lane changes and unconscious reversing. The cause of these accidents is primarily the carelessness of the driver and the lack of proper knowledge of the vehicle's blind spot. Therefore driving schools emphasize the importance of checking vehicles in BSZ before attempting to change lanes. Therefore, it is important to understand BSZ, especially its corresponding parameters, in order to develop an effective system for detecting approaching vehicles and warning drivers. To solve this problem and ensure safe driving, blind spot monitoring system. This system was developed using Arduino and ultrasonic sensors. It can detect an object in the blind spot area under various operating conditions such as static, dynamic, overtaking and reversing. The system overcomes the blind spot phenomenon and ensures safe driving. It is an effective system for detecting approaching vehicles and warning drivers.*

**Keywords:** Blind spot detection, ultrasonic sensor, arduino , changing lanes

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