

ABSTRACT

An autonomous driving system capable of detecting oncoming occluded vehicles is disclosed in low-light conditions. The system captures images which are processed and analyzed to determine bright spots in a region of interest which are related to reflections of an oncoming occluded vehicle. If an oncoming occluded vehicle is detected, the system analyzes the criticality of the situation based on a tunable threshold distance. The tunable threshold distance from the equipped vehicle (vehicle with the autonomous driving system) to the oncoming occluded vehicle. Factors for tuning the threshold distance may include curvature of the road, sharpness of the turn or occluded area, road surface conditions, speed of the equipped vehicle as well as mechanical capabilities of the equipped vehicle. If the situation is critical, the system generates a warning signal indicating a hazardous condition.