

**UNIVERSITI TEKNOLOGI MARA
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**MODELLING OF LANE DEPARTURE
WARNING SYSTEM AS CAR
DRIVING ASSISTANCE USING
ANDROID BASED SYSTEM**

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ABSTRACT

The use of driver assistance systems is a current trend in the car industry. However, most driver assistance systems require the use of multiple sensors, increasing the cost of their implementation in cars and making them inaccessible to many users. This project introduced a Lane Departure Warning System which the system monitor and assist driver during driving by using Android mobile device. The assist used rear camera of devices and placed the device at center front of driver dashboard. The rear camera capture the view of driving mode on road and detect the lane via image processing and computer vision techniques. For simulation development of the process is done by using MATLAB Simulink software and Hough Transform algorithm using recorded video and real-time video processing through webcam. Final development of the project was implemented the system to an application of lane departure based on android device. This project enabled to assist driver in real-time monitoring for lane marking on both side of the road lane, if any departing occurring the warning notified via graphical and sound alert.

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CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

This chapter contain the background of study for this project. This chapter also stated about the problem statement of this project and its significance. Objective, scope of study and project limitation been stated in this chapter. Lastly, this chapter stated about the thesis organization.

1.2 BACKGROUND OF STUDY

Recently, driving safety has become one of the most crucial concerns by everyone. The people who travel on road from one place to other will expect to reach safely without any sudden incidents which may come through externally by road accidents while driving. Driver can avoid the road accidents by applying safety features in vehicle. That is why nowadays many car manufacturers had doing a lot of research to improve the safety features in their vehicle. One of that is lane departure warning system. This is because car accidents are frequently occur, therefore an intelligent vehicle technologies are rapidly grows advancing worldwide [1]. In order to increase safety and reducing road accidents, people are spending lots of money for the advancement in the driving techniques which assure the safety. The enhancement in technology nowadays makes man to think more to improve the safety to save the lives. The automotive industry are more intended of providing safety features like seat belts, air bags and strong body structures which provide the passive safety that may reduce casualties in road accidents. Avoiding accidents and saving lives are one of great pursuit that all researchers and automotive companies undertake.

Systems that are designed to help the driver in its driving process are known as Advanced Driver Assistance Systems (ADAS) [2]. Many systems like adaptive cruise