

## Review of thesis supervisor

Thesis title: Autonomous control of a car model

Author: Wongsagoon Prem

The goal of the thesis was to demonstrate autonomous obstacle avoidance of a small car model.

The specific goals were:

1. Create a simulation model of a small car that will automatically avoid simulated obstacles
2. Mount the Lidar on the car model and program the autonomous driving on a dSpace
3. Experimentally verify

The student has first focused on a description of sensors used in autonomous cars, with a focus on Lidar, that was provided to her. It was decided to make the control in Simulink, so that a dSpace platform could be used. The student has first created a simulation model, with simulated car, sensor and obstacle and created a simple algorithm for avoidance.

The next step was to connect the LIDAR to the rest of the electronics. This was troublesome, but she succeeded. The serial data from the LIDAR is read and decoded. The small model car is then controlled with a servo (steering) and a DC motor (rear wheels). The dSpace controller is not placed on the car (due to weight) but the car drags a cable behind.

The algorithm was tested on five different scenarios, as shown in the thesis.

The student has regularly shown his progress on weekly meetings. She also had to learn a lot of new skills, such as STM programming, algorithms, etc.

**I recommend the thesis for presentation and evaluate the thesis with grade „A - excellent“.**

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