Abstract

Nowadays, the driving assistance technologies have been getting more and more significance in the automotive industry. An important task of driving assistant systems is the recognition and evaluation of traffic situations. One specific task is the determination of the current traffic maneuvers and those to be performed. Situation analysis can help to do that.

The situation analysis is based on uncertain data, therefore in most cases no confident decision can be made during the evaluation of the situation. In these cases the maneuvers have to be handled in a probabilistic approach.

In my BSc thesis, first, I introduce basics of the probabilistic models, and then I describe my development in details. The lane changing recognition and its forecasting method is written in MATLAB environment. The information is provided by the radar and camera systems of the vehicle and applied to the model

The developed software component can provide a basis for the software of cars in mass production. The advanced situation recognition facilitates the avoidance of dangerous traffic situations and makes the travelling safer.