One of the core tasks in automated driving is the prediction of the motion that other vehicles will perform in the immediate future. In order to calculate such a prediction, it is first necessary to estimate the other driver’s driving intention. This in turn is influenced by traffic rules applicable to the situation as well as their assessment of how the traffic scene will develop.

Even for a relatively small number of vehicles in a traffic scene, these inter-dependencies can create a complex problem. The goal of this thesis is to develop a modeling approach which can be used to describe inter-vehicle dependencies in the context of intention estimation with a Hidden (Markov) Models.

The proposed thesis consists of the following parts:

+ Literature research about dependency modeling, intention estimation and (time variant) Hidden Markov Models
+ Development and implementation of an approach to (driver) intention estimation incorporating inter-vehicle-dependencies
+ Evaluation using a data set containing several traffic scenes and vehicle interactions

Conducting this thesis excellently will lead to a tier 1 publication in either an intelligent vehicles or robotics conference.

I am happy to answer any questions you might have. Feel free to ask for an appointment!