

Student thesis



Master's thesis

Modelling of the traffic environment in automated vehicles

Topic and Goal of the Thesis

The increasing level of vehicle automation leads to demanding requirements for the detection and virtual representation of the real traffic environment. The efficient representation of the driving environment and a precise prediction of the situation are important aspects for planning safe, comfortable and efficient driving maneuvers. In this thesis, a concept for modelling dynamic and stationary traffic objects is to be developed, exemplarily implemented and tested in a test vehicle. Important part of the work is the consideration of logical relations between individual objects and stationary traffic elements (e.g. assignment of vehicles to certain lanes).

Working Points

- Elaboration of basic approaches for environment modelling
- Development of a concept for virtually representing the driving environment
- Exemplary implementation of the concept based on real driving data and defined scenarios

Requirements

- Very good English and/or German language skills
- Reliability, commitment and enjoyment of working independently
- Creativity and the ability to abstract situations
- Basic knowledge about (in-vehicle) sensors and/or machine perception
- Basic programming skills in C/C++ or Python

Department

Automated Driving

Contact



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Language

German or English

Entry Date

Earliest possible date

Prior knowledge

Basic Knowledge about
Automated Driving, Sensors
and Environment Modelling

Programming skills in
C/C++ or Python