

# Student thesis



## Master thesis



## Learning from the knowledge of the many - collective data analysis for automated driving

### Topic and Goal of the Thesis

Human beings learn to drive efficient, safe and comfortable by gaining experience with years of practice. Thereby we can quickly adapt our knowledge to traffic situations never seen before. Automated driving functions can only adapt to these situations with a decrease of their decision-making in efficiency, comfort and maybe safety. The goal of this work is to develop an approach to efficiently store relevant driving data for later evaluation and use in AI-supported approaches to derive desired behaviour and trajectory planning. For this purpose, evaluation metrics will be defined and implemented in an existing framework for data storage. In addition, AI-supported trajectory planning will be adapted and optimized for the application of these metrics.

### Working Points

- Derivation of metrics for an a posteriori behaviour evaluation in order to give suggestions for other traffic participants
- Implementation of the data computing chain for the a posteriori evaluation and suggestion making
- Evaluation of the implemented architecture

### Requirements

- Good English or German language skills
- Reliability, commitment and enjoyment of working independently
- Experience with C++ and ROS
- Experience with evaluation metrics is an advantage (not a must)

### Department

Vehicle Intelligence & Automated Driving

### Contact



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### Language

German or English

### Entry Date

earliest possible date

### Application

CV and overview of grades via e-mail

### Prior knowledge

programming skills  
high amount of self-initiative

#### optional:

C++ and ROS,  
Python or Matlab,  
general knowledge in evaluation metrics