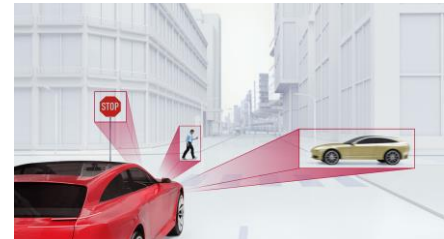




# Investigation, Implementation and Optimization of Automated Evaluation Tools to Assess Criticality of Test scenarios for ADAS

## Background

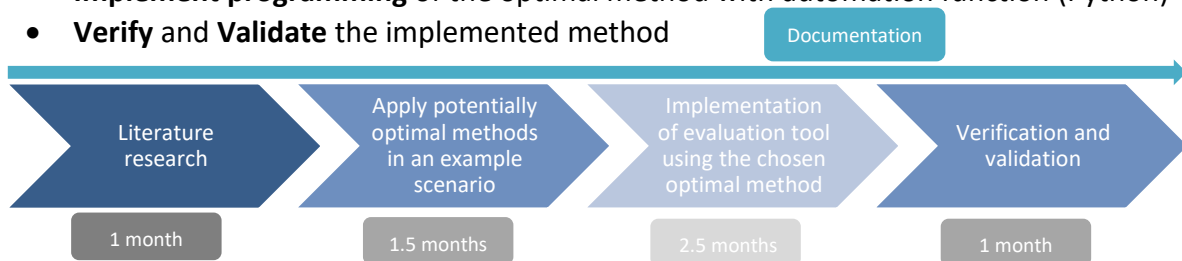
At present, **Advanced Driver Assistance System (ADAS)** is playing an increasingly important role in the transportation system. As an Institute focusing on the research area “vehicle safety”, we are of course interested in the topic “**functionality and safety potential evaluation of ADAS**”. In this area, **scenario-based testing** in both the real and virtual worlds is currently the most favored evaluation method. However, considering a large number of test scenarios could be derived from the real world, which leads to an unacceptable expenditure of time and money, it makes great sense to **identify critical scenarios by assessing the criticality of possible scenarios**.



**Your goal** in this thesis is to **identify and implement an optimal automated evaluation method to assess the criticality of test scenarios**, which is created by varying the influence parameters of a given critical scenario in a **virtual simulation environment**.

## Tasks

- **Get familiar** with scenario-based testing for ADAS and different scenario criticality assessment methods
- **Understand** the principles of these methods and **evaluate** them to make a preliminary selection of potentially optimal methods
- **Identify** the optimal method by applying these potentially optimal methods to example scenarios and evaluating the results
- **Implement programming** of the optimal method with automation function (Python)
- **Verify and Validate** the implemented method



## Recommended as

- Master thesis for Mechanical Engineers

## Organizational

- Start: from October 2020
- Scholarship: min. € 2.500,- for successful completion of the thesis
- Contact: Jörg Moser (joerg.moser@tugraz.at)

