

Student Thesis

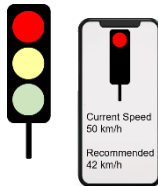


Bachelor/Master Thesis

App-Based Green Wave Assistant

Topic and Goals of the Thesis

The increasing number of vehicles in daily traffic leads to many problems. For example, traffic stagnation or even traffic jams form on main traffic arteries, which leads not only to increased emissions but also to frustration among drivers. In part, the problems are also caused by the drivers, as they do not have the necessary foresight. In order to improve traffic flow, reduce emissions and avoid frustration, it is therefore necessary to support the driver in his driving task with appropriate assistance systems.



In urban areas, light signals in particular cause inefficient driving styles and unnecessary waiting times, since drivers can only very rarely adapt their driving style to the current signal phases. However, if information is available via the Internet, e.g. on the remaining duration of the current green phase of a traffic light, it can be used to guide the driver. Besides a pure display of the remaining phase duration, an optimal speed for passing the next traffic light can be determined. Previous built-in solutions in vehicles are however expensive and have a very low market penetration. In the context of this thesis an app-based approach shall be developed. After selecting a suitable route, the effect on the driving style is determined by experimental tests.

Tasks

- Literature research on approaches longitudinal trajectory optimization
- Design and implementation of an app-based solution
- Evaluation in simulation and test drives

Your Profile

- Good English and/or German language skills
- Reliability, commitment and enjoyment of working independently
- Advanced programming experience

Department

Vehicle Intelligence & Automated Driving

Contact



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Entry Date

ASAP

Prior Knowledge

Programming