

Thesis (m/f/d) - Optimization and comparison of different concepts of highly automated lateral control using automated and simulative methods on a virtual vehicle

📍 Chemnitz

Level of experience: Pupils / Students

Tasks you will take on

The aim of the work is to compare different lateral control concepts in interaction with trajectory planning as part of the function development for a virtual vehicle. To this end, the existing functions are to be analyzed, optimized and compared in relevant scenarios. The comparative evaluation is to be implemented with regard to safety and comfort-relevant parameters using test automation.

The following points are to be addressed as part of the work:

- Literature research on the topics of function development, lateral control, evaluation criteria, scenarios, optimization of controllers
- Creating an overview of common concepts for lateral control
- Analyzing the existing concept implementations and the interfaces to other functions (e.g. trajectory planner)
- Analysis of the optimization potential of the controller parameters
- Optional: in-house development and implementation of a controller approach
- Compare the existing concepts using test automation in a simulation environment
- Optimization of the controller parameters using relevant scenarios modelled in CarMaker
- Evaluation based on selected safety and comfort criteria
- Documentation of the results (in written form) and presentation of the results

Your qualifications include

- Abstract thinking
- Concept development
- Python
- C/C++
- Basic knowledge about ADAS-functions

Your skills include

- Analytical and conceptual thinking
- Strong team and communication skills
- High degree of personal responsibility and initiative
- Good knowledge of German and English

What's in it for you

For more flexibility

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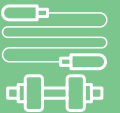
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For more information visit www.fdtech.de.

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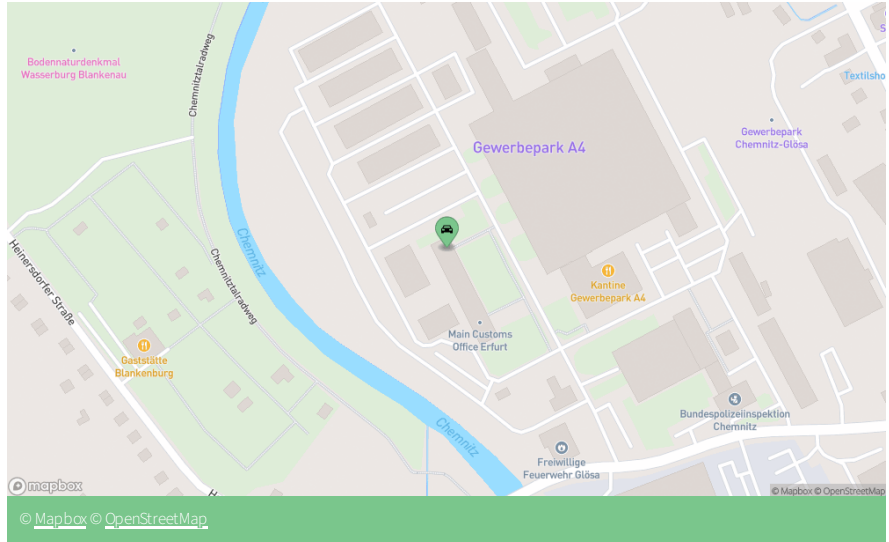


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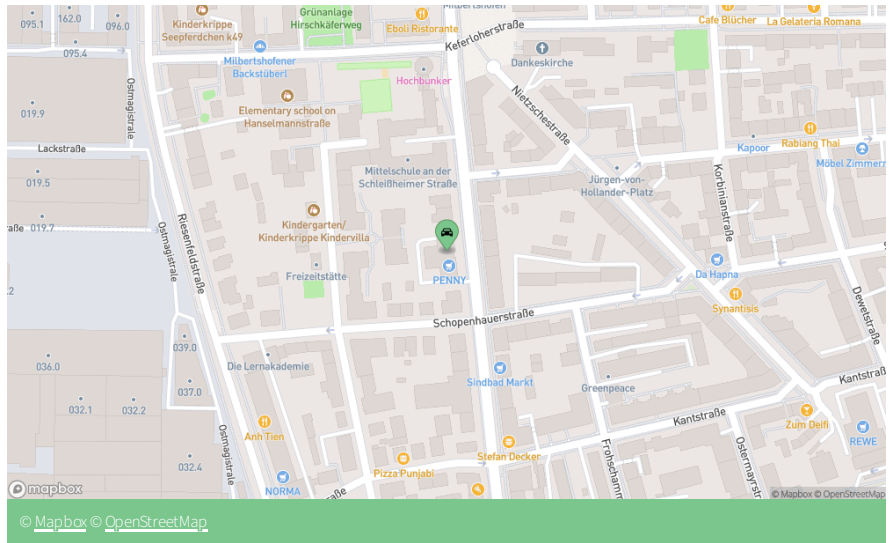


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