

Bachelor Thesis/ Bachelorarbeit



Preparation of 3D vehicle models and digital twins of a highway section for testing of autonomous driving

[Vorbereitung von 3D-Fahrzeugmodellen und digitalen Zwillingen eines Autobahnabschnitts für den autonomen Fahrversuch]

Today's society faces significant changes as autonomous driving (AD) is becoming a reality. Virtual testing is a key measure to overcome the challenges of complex design and validation processes. Within the scope of this work, the student will reconstruct a 3D model of the vehicle and the section of the actual highway for testing autonomous functionality.

Scope of work:

- Getting familiar with Blender graphics, vehicle simulation (IPG CarMaker), OpenDRIVE and 3D object formats
- Vehicle simulation based on existing models
- Improve road and environment modelling (intersections, etc.)
- Implementation of 3D objects into the map
- Documentation (Bachelor thesis)

Requirements:

- Motivation and interest in the development of 3D models
- Methodical and team-oriented mindset

Duration: 3 months
Beginning: available immediately
Working place: Institut

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