Chair of Media Technology
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Forschungspraxis

How Well Perform Today's Autonomous Driving Models

This work can be done in German or English

At the current stage of autonomous driving, failures in complex situations are inevitable. A learning-based method to predict such failures could prevent dangerous situations or crashes. However, collecting real-life training data of crashes caused by autonomous vehicles is not feasible. A different solution is to use data from realistic simulations of a self-driving car, such as CARLA [1].

In this project, the objective is to setup available autonomous driving models such as [2,3] and use our existing data logging pipeline to evaluate these model's failure cases. The whole process should be further improved by extending our logging pipeline.

Tasks

- Improving the existing data logging pipeline
- Setup of existing autonomous driving models
- Collection of driving data with the implemented system
- Evaluation of autonomous driving model failures and collection of failure data

References

[1] A. Dosovitskiy, „CARLA: An Open Urban Driving Simulator“, S. 16, 2017.
[2] https://github.com/erdos-project/pylot
[3] https://github.com/commaai/research

Prerequisites

- Experience with Python (ROS and Linux)
- Knowledge about Docker would be helpful
- General knowledge about Machine Learning

Advisors

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