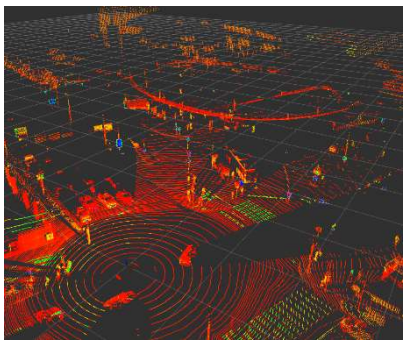
Technische Universität Graz
Erzherzog-Johann-Universität

Institut für Fahrzeugtechnik

Master Thesis/ Masterarbeit



Comparison of the Performance of Apollo (Baidu) with and without Lane Change Prediction

[Vergleich der Leistung von Apollo (Baidu) mit und ohne Fahrspurwechselvorhersage]

For years lane change prediction has been studied extensively, yet the benefits of the implementation of such complex technology have not been extensively documented. Many companies are currently developing and testing their proprietary autonomous driving architecture among which Baidu whose Apollo architecture proved to be a promising new addition to the industry. The aim of this thesis is to understand if and how prediction of surrounding vehicles' lane change intentions and trajectories can benefit Apollo in a selected variety of scenarios.

Scope of work:

- Getting familiar the simulation softwares (Matlab/Simulink, IPG CarMaker, PTV VISSIM).
- Modify the planning module of Apollo to include input from a prediction module.
- Testing of the modified architecture.
- Comparison of the two architectures (with/without prediction).
- Documentation (Master thesis)

Requirements:

- Motivation and interest in ADAS technologies.
- Methodical and team-oriented mindset.
- Preferred but not mandatory basic experience with Matlab/Simulink and/or CarMaker and/or VISSIM.

Duration: 6 months
Begining: available immediately
Working place: Institut für Fahrzeugtechnik (Inffeldgasse 11, 8010 Graz)

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16.11.2023