

IDP

Motion Prediction Development for Urban and Racing Autonomous Driving Applications - IDP

To make autonomous vehicles a reality, we are developing autonomous driving software and testing it on two different research platforms EDGAR (Figure 1, left - urban AD) and TUM Autonomous Motorsport TAM (Figure 1, right - racing AD). While their application domains differ drastically – urban vs racing - the core software functionality is shared, enabling knowledge transfer between these platforms.



Figure 1: EDGAR at the Wies'n Shuttle demonstration, TAM at Abu Dhabi Racing League

This IDP project is aimed to the development of a robust evaluation benchmark for motion prediction algorithms, to be used for both EDAR and TAM. With this evaluation pipeline, our current motion prediction algorithms should be benchmarked and evaluated against the current state-of-the-art (Figure 2).

Work Packages:

- Literature research into state-of-the-art motion prediction algorithms
- Development of a modular prediction benchmark to evaluate and compare motion prediction algorithms for EDGAR and TAM.
- Compare and evaluate our motion prediction against the Sota approach comprehensively.

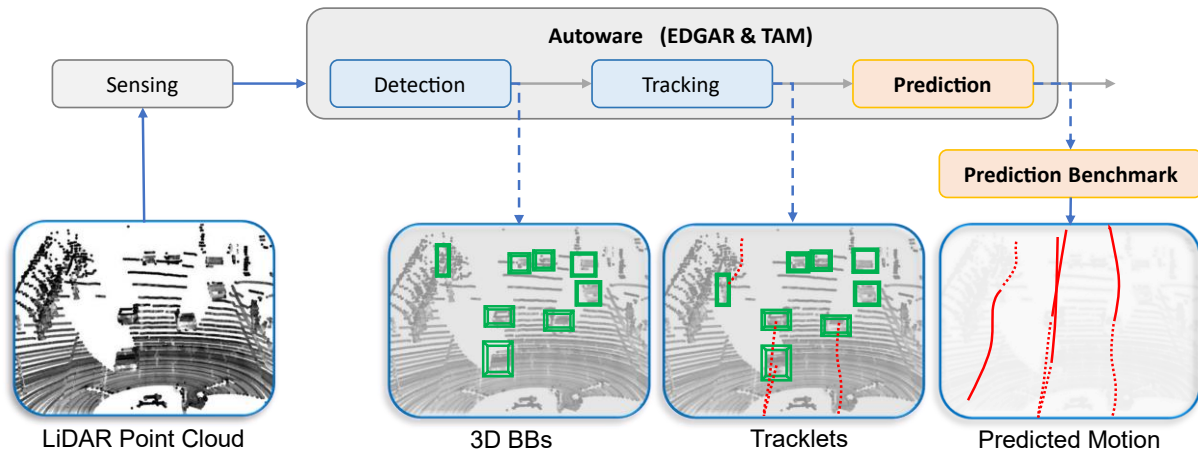


Figure 2: IDP Topics

Requirements:

- Good programming skills in Python or C++
- Ideally experience with ROS2.
- High personal motivation and independent working style
- Very good language proficiency in German, English or French

If you are interested in this topics, please apply with your CV and transcript of records. Send your application documents to daniel.esser@tum.de or loic.stratil@tum.de.

The thesis should clearly document the individual work steps. The candidate undertakes to complete the term paper independently and to indicate all scientific aids used.

The submitted work remains the property of the chair as an examination document.

Prof. Dr.-Ing. M. Lienkamp

Betreuer: Loïc Stratil, M. Sc.

Ausgabe: _____

Abgabe: _____