

## Advertisement

### Master thesis

### Deep Learning based Data Segmentation: Training Data for LiDAR-based Semantic Labeling

## Topic and goal of the thesis

Training artificial neural networks requires large amounts of data. It is therefore desirable to incorporate data from publicly available data sources in the training process. However, the availability of labeled semantic data for LiDAR point clouds is low, but a number of data sets for image-based segmentation is available. Therefore, this thesis shall analyze methods for cross-modal data generation. The goal is to match LiDAR data with automatically labeled images and by this generate training data for neural networks for segmentation of sparse point clouds.

## Tasks

- Literature research on techniques for cross-modal training data generation
- Implementation of the proposed techniques in python
- Training of exemplary neural networks for point cloud segmentation
- Evaluation of proposed techniques

## Requirements

- Good English or German language skills
- Reliability, commitment and enjoyment of working independently
- Experience with python
- Experience with point cloud processing, computer vision or Machine Learning is an advantage (not a must)

**Note:** The thesis may be written in German or English

## Bereich

Automated Driving

## Contact



Bastian Lampe

Christoph Klas (fka)

☎ +49 241 80 25673

✉ bastian.lampe@  
ika.rwth-aachen.de

✉ christoph.klas@fka.de

## Start date

earliest possible date

## Prior knowledge

Python