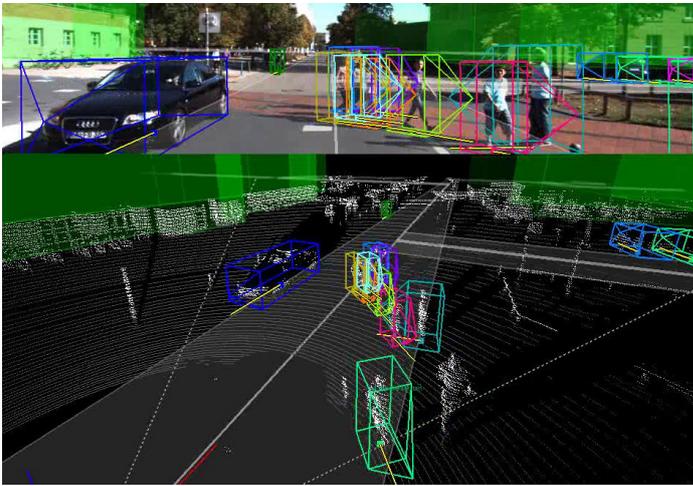


## Research Assistant (HiWi) Ground Truth Annotation for a Custom Autonomous Driving Dataset

Today's deep neural networks can reach an astonishing level of accuracy in classification and detection tasks. However, no machine learning model can be more accurate than the dataset it is trained with.

As part of this project, we create a custom dataset for our experimental vehicle in order to train and evaluate machine learning algorithms for autonomous driving. Towards this goal we create 2D/3D annotations of objects in urban scenes for camera and lidar data. The annotations include class labels, bounding boxes, and segmentation masks.



Object labels in the camera image (top) and the Lidar point cloud (bottom) (from the KITTI dataset)<sup>1</sup>

We are looking for a student assistant to strengthen our team in the area of ground truth data generation and data quality assurance for an initial 10 h/week at the earliest possible time. Your task would include

- + Annotation of data samples (camera or lidar) recorded by our research vehicles in Karlsruhe and Sindlefingen.
- + Selection of data samples for a high-quality and diversified dataset.
- + Data quality assurance and identification of mislabeled training data.

The working hours are highly flexible, can be adapted to your university schedule and have to be done on-site at the KIT Campus South (MRT). The job does not require specific previous experiences but attention-to-detail and a high level of quality awareness regarding data annotation. This sounds exciting? Then apply to us!

I am happy to answer any questions you might have. Feel free to ask for an appointment or directly ask at my office!

**Institute of Measurement  
and Control Systems (MRT)**  
Prof. Dr.-Ing. Christoph Stiller

**Advisor:**  
Frank Bieder, M.Sc.

**Programming language(s)<sup>1</sup>:**  
Python basic

**System, Framework(s):**  
Linux

**Required skills:**  
- Basic knowledge of image processing is an advantage  
- Work on your own

**Language(s):**  
German, English

For more information please contact:

**Frank Bieder**

Room: 138 → just come by!  
Phone: +49 721 608-48423  
Email: frank.bieder@kit.edu

Or directly send in your application including your current grades. You can also fill out a questionnaire questionnaire!



<sup>1</sup> **skill levels:**  
*beginner* < 500 lines of code (LOC)  
*advanced* 500 – 5000 LOC  
*proficient* > 5000 LOC

<sup>1</sup>Geiger et al. (2013). "Vision meets Robotics: The KITTI Dataset"