Chair of Media Technology
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Master's Thesis

Deep Learning-Based 3D Object Detection for Autonomous Driving by Fusion of Camera and LIDAR Data

Extern description:

"The focusof this master thesis is to use deep neural networksfor 3D object detection by applying state-of-the-art deep-fusionmethods to camera and LIDAR sensor data.Therefore, the DNN will take images and point clouds as input data and output 3D bounding boxes. Features in both data types are learned as well as the fusion of the features for 3D bounding box generation. Publicly available datasets will be used fortraining. The trained network will be applied to the specific sensor configuration of an experimental vehicle that is used by Bertrandt as part of an in-house research project. Different data augmentation strategies and training strategies are explored to adapt the DNN to the specific data.The master student will work as a part of an interdisciplinary team in the perception group of the research project."

Advisors

Michael Adam
Dr. Cay-Christian Kalmbach (Bertrandt)