**The things you make happen**

In the context of developing video based Drivers Assistance Systems and Automated Driving Functions, we offer a master thesis in the fields of computer vision and machine learning. You will work on the prototypical implementation of an approach for the3D pose estimation of vehicles using Deep Learning techniques. The main focus of the thesis will be:

- Literature research for CNN based 3D pose estimation

- Implementation of a Convolutional Neural Network for the estimation of vehicle 3D pose (position, orientation, size etc.)

- Optimization of algorithms by own research ideas to improve performance and runtime

- Demonstration of the approach on public and internal datasets. Visualization and documentation of the results.

**The skills you need:**

- Student of Computer science, Electrical engineering, or similar studies

- very good grades

- Strong knowledge in computer vision and machine learning, experience in Deep Learning would be a plus.

- good programming skills in Python or Matlab, ideally familiar with Caffe or other Deep Learning frameworks

- high motivation, strong analytical skills, and the ability to work independently

Requirement for this thesis being enrolled in university. Please attach your examination regulations and when indicated work permit and legal alien resident.