

## **Testing Deep Learning-based Visual Perception for Automated Driving**

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Due to the impressive performance of deep neural networks (DNNs) for visual perception, there is an increased demand for their use in automated systems. However, to use deep neural networks in practice, novel approaches are needed, \eg for testing.

In this presentation, we focus on the question of how to test deep learning-based visual perception functions for automated driving.

We review and discuss existing work on testing DNNs for visual perception with a special focus on automated driving for test input and test oracle generation as well as test adequacy.

We conclude that testing of DNNs in this domain requires several diverse test sets with specific test purposes.

We outline how such test sets can be constructed with the help of the presented methods.