

Forschungspraxis

Introspective Failure Prediction in Urban Driving

At the current stage of autonomous driving, failures in complex situations are inevitable. Instead of minimizing the amount of failures, the idea of introspection is to learn when a prediction for a given input cannot be trusted. The learned introspective model allows rejecting sensor input where the vehicle would not be qualified to make a decision.

The goal of this thesis is to apply the concept of introspective failure prediction to the context of autonomous driving. Large-scale datasets such as BDD100K contain video data of urban scenes with detailed annotations. The objective is to implement relevant tasks such as object detection or image segmentation and then train an introspective model using Deep Learning to predict failures.

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