Predictive Modeling for Vehicle Time-Series Data

The majority of data in current vehicles is evaluated solely in a local manner. The proposed method offers the possibility of using the latest data analysis techniques to develop functions for active safety and driver assistance systems, or vehicle testing of automated driving systems. We show an approach that combines the advantages of machine learning for logged vehicle data with the ability to use the predictive models created online in vehicles. Starting with intelligent data pre-processing, optimal conditions for the analysis step are established. Using machine learning techniques, predictive models are created to estimate various kinds of outcome variables. The concept is shown using the example of estimating the dynamic criticality in vehicles, based on driving dynamics signals and radar data.

Stichworte:
FTM Fahrerassistenz

Kongress-/ Buchtitel:
13th International Symposium on Advanced Vehicle Control, AVEC’16

Datum der Konferenz:

Jahr:
2016

Nachgewiesen in:
Scopus

Revied:
ja

TUM Einrichtung:
Lehrstuhl für Fahrzeugtechnik