



MERLIN

Potential-based criticality measure for quantification of risk and danger in traffic scenarios

Tobias Merk, Andreas Linnemann, Mladjan Radic, Martin Bollmann, ZF

To validate functions used in an autonomous vehicle one important requirement for these functions is safety driven. Where the differentiation in crash and no-crash is not sufficient, a measure is needed. Criticality should represent the measure, to get the assessment, how unsafe functions of an autonomous vehicle had solved tested scenarios. Criticality measure is used for:

- Detection of hazardous scenarios
- Quantification of the challenging nature of a scenario
- Quantification of handling a given scenario

Improvement:

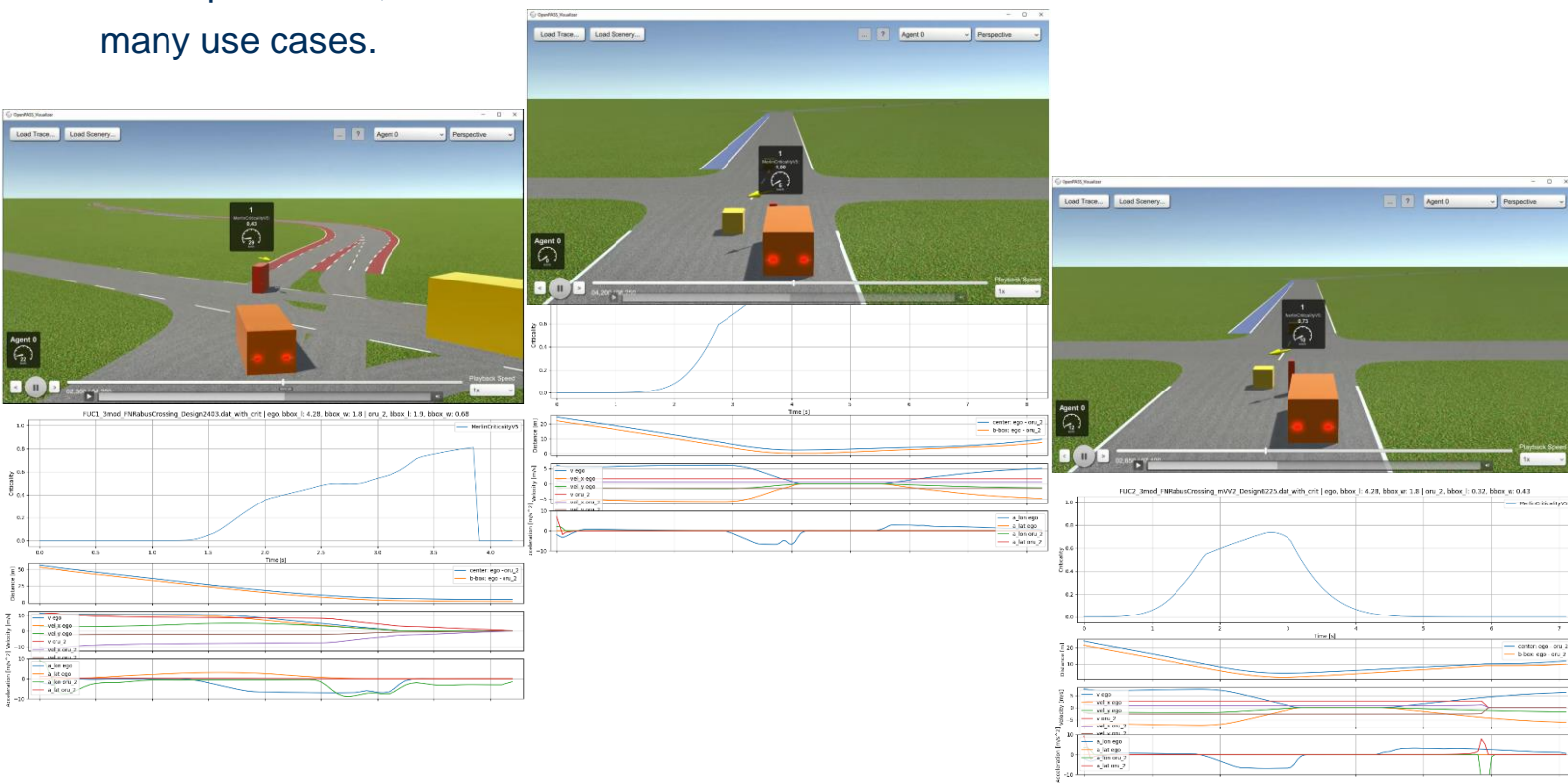
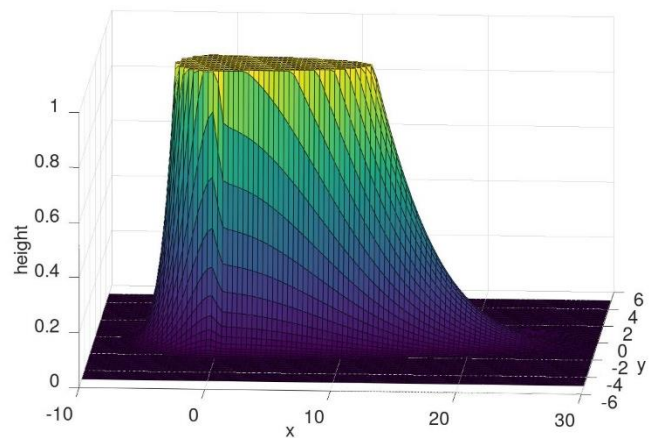
Known measures are not able to fulfill the requirements, that results from many use cases.

Requirements on Criticality:

- Evaluation of arbitrary scenario
- Occurrence-possibility of crash
- Efficient evaluation

MerLin Advantages:

- Fulfills above requirements
- External influences easily addable (weather, road conditions, ...)
- Potential further development towards crash severity



www.vvm-projekt.de

Twitter @vvm-project

LinkedIn VVM Project

Projektpartner



Supported by:

**A project developed by the
VDA Leitinitiative
autonomous and connected driving**



on the basis of a decision by the German Bundestag