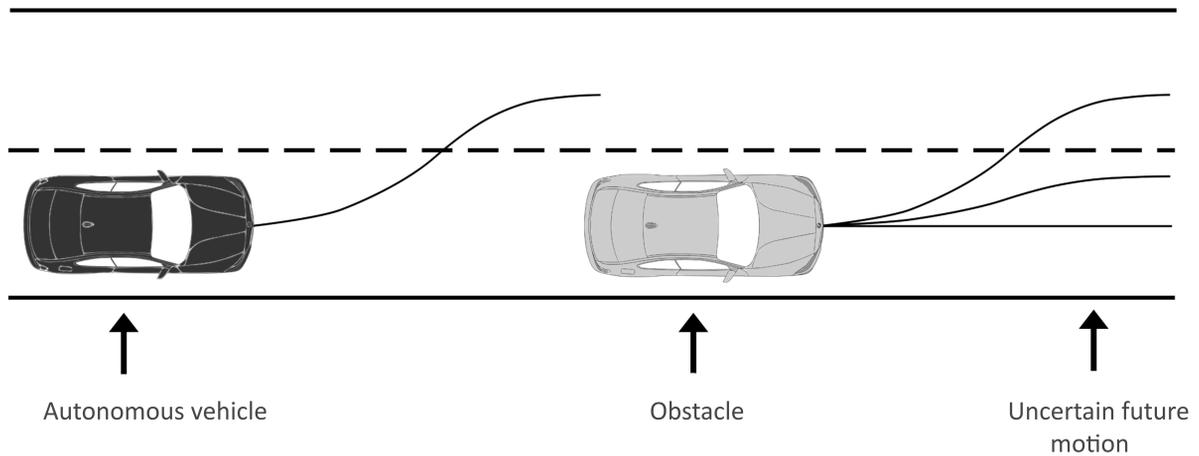


Identification of Unsafe Regions for Autonomous Vehicles

MOTIVATION

Is planned motion, e.g., evading, safe?



GOAL

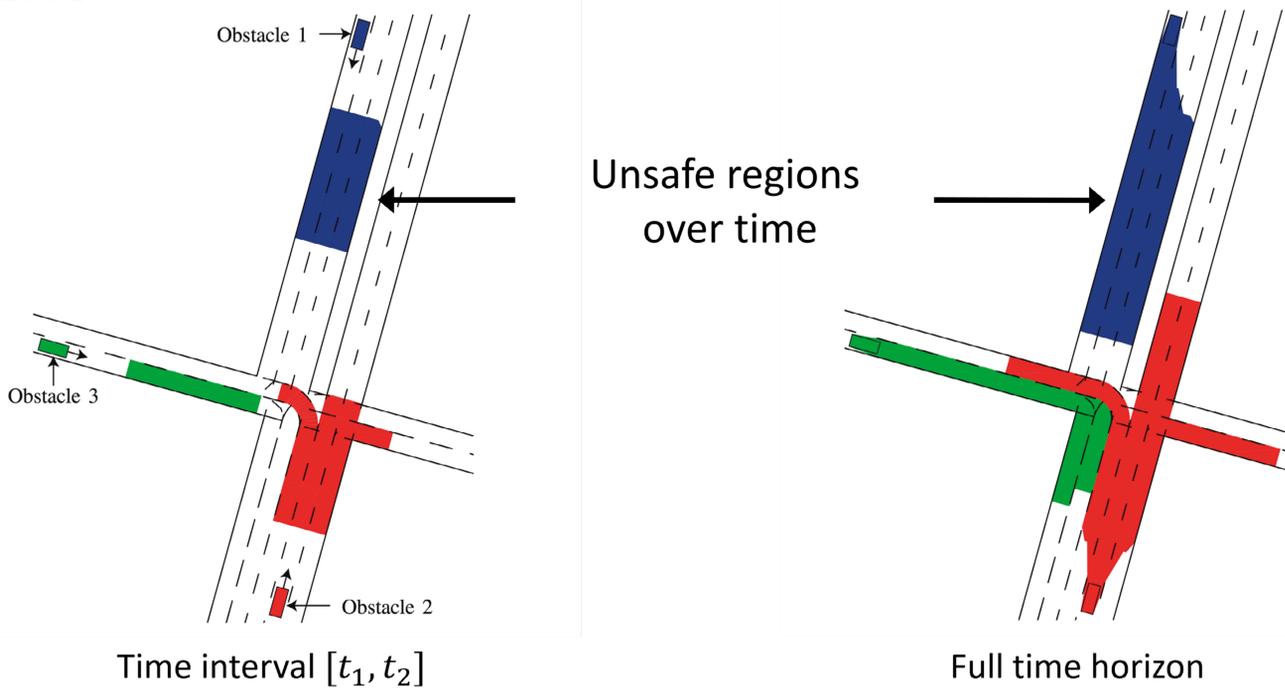
Compute the drivable area of the vehicle over time, which is collision-free considering other traffic participants.

APPROACH

We compute unsafe regions in a set-based fashion by

1. considering any feasible future motion of obstacles, and
2. reacting to unforeseen situations, e.g., appearing obstacles or traffic rule violations of obstacles.

RESULTS



PUBLICATIONS

[1] Pek, C. and Althoff, M. "Efficient computation of invariably safe states for motion planning of self-driving vehicles". Proc. of the IEEE Int. Conf. on Intelligent Robots and Systems, 2018.

[2] Koschi, M. and Althoff, M. "SPOT: A tool for set-based prediction of traffic participants". Proc. of the IEEE Intelligent Vehicles Symposium, 2017.

