

Simulation of urban Mobility (SUMO)

"Simulation of Urban MObility" (SUMO) is an open source, highly portable, microscopic road traffic simulation package designed to handle large road networks. SUMO has been extensively applied in different projects related to network performance, traffic assignment, vehicle routing, traffic impact analysis, traffic emission, V2X and other diverse traffic issues since more than 15 years. In addition to conventional vehicles electric vehicles can also be considered and analyzed in SUMO. Different parking activities, such as searching for parking lots, driving to the pre-assigned parking space, can be simulated with SUMO. Moreover, SUMO can simulate pedestrians, bicycles and their interactions with vehicles in order to present various traffic-related activities in cities.

This half day tutorial focuses on the basic application and will cover the following topics:

1. Introduction (30 minutes):
 - Microscopic traffic simulation
 - Car following models
 - SUMO simulation overview
 - SUMO Examples
2. Setting up a first simulation scenario (90 minutes)
 - Network preparation
 - Network editing with NETEDIT
 - Demand preparation
 - Simulation execution
3. Improving simulation results (90 minutes)
 - Result visualization
 - Scenario setup based on OpenStreetMap
 - Traffic assignment with DUAROUTER and MAROUTER
 - Simulation calibration
4. Simulating intelligent traffic (30 minutes)
 - Online interaction via TraCI
 - SUMO demos

The tutorial is a basic tutorial for beginners and people who want to get an introduction of the work flow of SUMO and microscopic traffic simulations in general. Attendees should bring their own computer and if possible download the latest SUMO release from www.sumo.dlr.de

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