

A method for real-time adaptation of weather conditions within a traffic simulation

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Abstract

The increasing amount of trajectory like information enables us to simulate real traffic situation more and more accurately. With the proper use of this large dataset we can create more realistic simulations of local traffic problems; moreover we can run such simulations which can take the environmental changes into account. A lot of commercial and open-source software exists to realize and visualize these mentioned needs. Most of these software packages are specialized to solve a special group of problems, so each has its special field of use. The examined software packages don't take environmental conditions into consideration within a simulation, such as a slippery road in a snowy night. The calibration of a traffic simulation model to different weather conditions is considered to be a difficult task; for example, it is not trivial to determine the impact of each factor on the system. The article below ([1]) discusses the problem of slippery roads caused by snow. Slipperiness can be given an n-dimensional function, which sufficiently approximates the real measurement values. The purpose of my paper is to implement the above-mentioned methodology in a licensed and in an open-source environment. To examine that this method is capable to simulate other weather conditions can be a subject of further researches.

Keywords: datamining, micro simulators, calibration, slippery roads

References

[1] Johannes Asamer (2011) Calibrating VISSIM To Adverse Weather Conditions

[Online] [referred: 2013.05.13],

<http://www.mech.kuleuven.be/MT-ITS2011/downloads/Abstracts/026.%20J.%20Asamer%20et%20al.,%20Calibrating%20VISSIM%20To%20Adverse%20Weather%20Conditions.pdf>