

عنوان مقاله:

Car-following modeling with considering instantaneous reaction time: A Support vector regression methodology

محل انتشار:

شانزدهمین کنفرانس بین المللی مهندسی حمل و نقل و ترافیک (سال: 1395)

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خلاصه مقاله:

Car following modeling is one of the most crucial issues in microscopic traffic simulation. Accuracy and reliability of microscopic simulation are so depended on car following models. In this essay, a very useful method in the field of regression such as support vector regression (SVR) are used. Considering existence of too many parameters in conventional models which are presented until now and complexity of calibration operation of these parameters, this essay has used mentioned method as if not only done modeling has a higher accuracy but also the calibration operation of parameters are omitted. Also, because every driver pays attention to both front car and the behind one, speed and distance from the behind car factors are used as input of models. Another inevitable factor in car following model is the driver's reaction time. As it has been discovered through this essay, using instantaneous reaction of the driver in acceleration and deceleration condition and considering back car, the represented model had a good value based on being close to the real data. The results of the research can be a good base for other researches on field of simulation of car following model for simulation of microscopic traffic on highways.

کلمات کلیدی:

Car following model, Support vector regression, Microscopic simulation, Reaction time

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