

Fuzzy Decision Support System for Human-Realistic Overtaking in Railway Traffic Simulations

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Abstract : In a simulation model of a railway system it is important, besides other crucial algorithms, to have correct behaviour of train overtaking in stochastic conditions. This problem is being addressed in many simulation tools focused on railway traffic, however these are not very human-realistic. The goal of this paper is to create a more human-realistic overtaking decision support system for the use in railway traffic simulations. A fuzzy system has been chosen for this task as fuzzy systems are well-suited for human-like decision making. The fuzzy system designed takes into account timetables, train positions, delays and buffer times as inputs and provides an instruction to overtake or not overtake.

Keywords : decision-making support, fuzzy systems, simulation, railway, transport

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