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Automatic Building of a Repository for Component-based Synthesis of Warehouse Simulation Models

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Abstract

Simulations are a common tool in the warehouse planning and adoption process for evaluating and comparing variants of a storage system. But simulation modeling is a complex and time-consuming task. Due to limited resources, often not all possible system variants can be modeled. A promising solution is the migration of an existing simulation model to enable component-based software synthesis. An inhabitation algorithm composes structural variants according to a synthesis goal given a repository of typed components. In this paper, we automatically generate a repository and synthesize simulation model variants using a block stacking warehouse simulation model as an example.

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