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A new variant of Petri net controlled grammars (Conference Paper)

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Abstract   ⌄ View references (17)

A Petri net controlled grammar is a Petri net with respect to a context-free grammar where the successful derivations
of the grammar can be simulated using the occurrence sequences of the net. In this paper, we introduce a new variant
of Petri net controlled grammars, called a place-labeled Petri net controlled grammar, which is a context-free
grammar equipped with a Petri net and a function which maps places of the net to productions of the grammar. The
language consists of all terminal strings that can be obtained by parallelly applying multisets of the rules which are the
images of the sets of the input places of transitions in a successful occurrence sequence of the Petri net. We study the
effect of the different labeling strategies to the computational power and establish lower and upper bounds for the
generative capacity of place-labeled Petri net controlled grammars. © 2015 AIP Publishing LLC.

Author keywords

Computational Power   Context-Free Grammar   Petri Net   Petri Net Controlled Grammar

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