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Traffic Signal Control with Adaptive Fuzzy Coloured Petri Net Based on Learning Automata

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This paper appears in: Fuzzy Information Processing Society (NAFIPS), 2010 Annual Meeting of the North American
Issue Date : 12-14 July 2010
On page(s): 1
E-ISBN : 978-1-4244-7857-6
Print ISBN: 978-1-4244-7859-0
References Cited: 23
INSPEC Accession Number: 11475983
Digital Object Identifier : 10.1109/NAFIPS.2010.5548184
Date of Current Version : 16 August 2010

ABSTRACT

Increasing number of vehicles, as the natural consequence of population growth, has caused a significant bottle-neck in transportation network and consequently major delays at intersections. Hence, in this paper we study a hybrid adaptive model, based on combination of Coloured Petri Nets, Fuzzy Logic and Learning Automata to efficiently control traffic signals. We show that in comparison with the results found in the literature the vehicle delay time is drastically reduced using the proposed method.

INDEX TERMS

- **IEEE Terms**
  Adaptive control , Automatic control , Communication system traffic control , Fuzzy control , Learning automata , Petri nets , Programmable control , Traffic control , Transportation , Vehicles
- **INSPEC**
  - **Non Controlled Indexing**
    coloured Petri net , fuzzy logic , hybrid adaptive model , learning automata , traffic signal control
- **Author Keywords**
  Adaptive Coloured Petri Nets , Fuzzy Logic , Learning Automata , Traffic Signal Control

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