

## Application of Neural Petri Net to Electric Control System Fault Diagnosis

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**Abstract :** The present work deals with implementation of Petri nets, which own the perfect ability of modeling, are used to establish a fault diagnosis model. Fault diagnosis of a control system received considerable attention in the last decades. The formalism of representing neural networks based on Petri nets has been presented. Neural Petri Net (NPN) reasoning model is investigated and developed for the fault diagnosis process of electric control system. The proposed NPN has the characteristics of easy establishment and high efficiency, and fault status within the system can be described clearly when compared with traditional testing methods. The proposed system is tested and the simulation results are given. The implementation explains the advantages of using NPN method and can be used as a guide for different online applications.

**Keywords :** petri net, neural petri net, electric control system, fault diagnosis

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