

## Classification of Crisp Petri Nets

**Authors :** Riddhi Jangid, Gajendra Pratap Singh

**Abstract :** Petri nets, a formalized modeling language that was introduced back around 50-60 years, have been widely used for modeling discrete event dynamic systems and simulating their behavior. Reachability analysis of Petri nets gives many insights into a modeled system. This idea leads us to study the reachability technique and use it in the reachability problem in the state space of reachable markings. With the same concept, Crisp Boolean Petri nets were defined in which the marking vectors that are boolean are distinct in the reachability analysis of the nets. We generalize the concept and define 'Crisp' Petri nets that generate the marking vectors exactly once in their reachability-based analysis, not necessarily Boolean.

**Keywords :** marking vector, n-vector, Petri nets, reachability

**Conference Title :** ICPNCTA 2023 : International Conference on Petri Nets and Concurrency Theory and Applications

**Conference Location :** London, United Kingdom

**Conference Dates :** August 17-18, 2023