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Vortragsankündigung

Seminar Regelungssysteme LV 0430L654

Donnerstag, 14. März 2013, 11:00 Uhr
Vortragsort: EN 223

Prof. Stefan Haar
ENS Cachan, France

"Reveal Your Faults: It's Only Fair!"

We present a methodology for fault diagnosis in concurrent, partially observable systems with additional fairness constraints. In this weak diagnosis, one asks whether a concurrent chronicle of observed events allows to determine that a non-observable fault will inevitably occur, sooner or later, on any maximal system run compatible with the observation. The approach builds on strengths and techniques of unfoldings of safe Petri nets, striving to compute only a prefix of the unfolding that is as small as possible to have sufficient information for the diagnosis algorithm. Our work extends and generalizes the unfolding-based diagnosis approaches by Benveniste, Fabre, Haar, and Jard (2003) as well Esparza and Kern (2012), both of which focused mostly on the use of sequential observations and in particular did not exploit the capacity of unfoldings to reveal inevitable occurrences of concurrent or future events studied by Balaguer, Chatain, and Haar (2011). Our diagnosis method captures such indirect, revealed dependencies.
The results have been recently submitted to a conference.