

Dear Editor,

We would like to submit the enclosed manuscript entitled "Prognosis of Patterns in Networked Discrete-Event Systems With Communication Delays", which we wish to be considered for publication in Journal of Control Engineering and Applied Informatics.

The work described has not been submitted elsewhere for publication, in whole or in part, and all the authors listed have approved the manuscript that is enclosed. We believe that two aspects of this manuscript will make it interesting to general readers of your journal.

First, the notion of k -step pattern predictability of networked discrete-event systems is introduced under the communication delays to describe the property that the occurrence of a pattern can be predicted prior to k steps at most based on partial observation.

Second, the necessary and sufficient condition for verifying the k -step pattern predictability is presented and a polynomial-time algorithm is developed. Moreover, the algorithm is also used to verify the pattern predictability proposed by T. Jéron.

Third, a predictor is construct to predict the occurrence of a pattern on-line and accurately compute the boundary number of steps prior to the occurrence of the pattern during the evolution of the system.

Thank you very much for your time and consideration.

Sincerely yours,

RuiZhao, FuchunLiu