THE UNIVERSITY OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

Online

Title: Pinning Stabilization of Boolean Networks: From Topologies to Dynamics

Speaker: Miss Lin Lin (PhD candidate)
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Date: 19 April, 2022 (Tuesday)

Time: 10:45 a.m. (Hong Kong Time)

Zoom meeting: 1) Link to join the meeting:

https://hku.zoom.us/j/97681580880?pwd=Ui9ESkgxbFFaTHBEcURwbEd0VzJMdz09

2) Meeting ID: 976 8158 0880

3) Password: 859220

Abstract:
Boolean network (BN) is an effective formulism to depict, simulate, and analyze the ubiquitous logical phenomena in life sciences and network communication. Compared with the traditional BNs, stochastic BNs is a practicable model to demonstrate the effects of external disturbances and the changes of internal mechanism. Recently, the semi-tensor product (STP) of matrices was proposed to transform a BN into its equivalent algebraic expression. In this setup, many mature tools, such as control theory, matrix theory, and graph theory, can be utilized to systematically analyze and control the systems behaviors. Nevertheless, open issues still remain in the investigation on large-scale BNs, specially for large-scale stochastic BNs, which partly motivate this research.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. J. Lam at 3917 2805.

Research areas: Robotics and Control