Potential Networked Evolutionary Game and its Applications to Multi-Agent Systems

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Date : July 17, 2014 (Thursday)
Time : 4:30 p.m. – 5:30 p.m.
Venue : Room 215, William M. W. Mong Engineering Building, CUHK

Abstract

Potential game has wide applications to congestion control, power systems, cooperative control etc. In this talk, we present some very conventional formulas to (i) verify whether a finite game is potential; (ii) calculate the potential function (if the game is potential) and near potential function (if it is not). Then we prove that a networked evolutionary game (or a game over multi-agent systems) is potential if the fundamental network game is. Meanwhile, the potential of the overall MAS can be calculated easily. Finally, some applications are investigated, which include (i) cooperative control and consensus of multi-agent systems; (ii) Distributed coverage of graphs by heterogeneous mobile agents.

Biography


***** ALL ARE WELCOME *****