POLITECNICO DI TORINO

DISMA Dipartimento di Scienze Matematiche G. L. Lagrange

ECCELLENZA 2018 • 2022

Wednesday November 13, 2019 at 15:30
Politecnico di Torino, DISMA, Aula Seminari (third floor)

Giuseppe BELGIOIOSO

Doctoral Candidate at Eindhoven University of Technology

Distributed Generalized Nash Equilibrium Seeking in Aggregative Games on Time-Varying Networks

Prof. Giacomo Como introduces the seminar.

Abstract

Several multi-agent decision problems in large-scale networks can be modeled as non-cooperative aggregative games with shared constraints, with generalized Nash equilibrium as solution concept.
In this talk, we present the first fully distributed algorithm for generalized Nash equilibrium seeking in aggregative games on time-varying communication networks, under partial-decision information, i.e., the agents have no direct access to the relevant information. With this aim, we discuss mathematical tools from monotone operator theory, operator splitting methods, and fixed-point iterations with errors.

Biography

Giuseppe Belgioioso is currently a Doctoral Candidate in the Control System (CS) Group at Eindhoven University of Technology, The Netherlands. Born in Venice, Italy, in 1990, he received the Bachelor degree in Information Engineering in September 2012 and the Master degree (cum laude) in Automation Engineering in April 2015, both at the University of Padova, Italy. In June 2015 Giuseppe won a scholarship from the University of Padova and joined the Automation Engineering group until April 2016 as a Research Fellow. From Febraury to June 2019 he visited the School of Electrical, Computer and Energy Engineering at Arizona State University (ASU), USA. His research interests include game theory, operator theory and distributed optimization for studying and solving coordination, decision and control problems that arise in complex network systems, such as power grids, communication and transportation networks.