AVVISO DI SEMINARIO
Valerio Dose

The Price of Anarchy in Routing Games as a function of the demand: how the amount of traffic affects the efficiency of selfish routing
Venerdì 9 aprile 2021, ore 10:00 modalità telematica

Descrizione
Valerio DOSE, vincitore della procedura selettiva per n. 1 posto di ricercatore a tempo determinato di tipologia A – SC 01/A6 - SSD MAT/09 - Dipartimento di ingegneria informatica automatica e gestionale Antonio Ruberti bando n. 5/2020 RTDA, prot. n. 2529/2020 del 13 ottobre 2020, terrà presso questo dipartimento in modalità telematica un seminario su attività di ricerca svolte e in corso di svolgimento.

Data dell'evento
Il seminario avrà luogo Venerdì 9 aprile 2021, ore 10:00.

Luogo
Modalità telematica su Meet

Abstract

The Price of Anarchy (PoA) is a measure of how much, in a congested network, the selfish behaviour of the users provides an inefficient distribution of traffic with respect to the social optimum. Recent literature suggests that in light or heavy traffic condition, selfish routing tends to be efficient. Other studies have empirically shown that in real networks, for intermediate levels of traffic, the PoA oscillates and exhibits some kinks at specific values of the demand, often without reaching the worst case bounds. In this work, we study the PoA as a function of the traffic inflow, considering its behaviour for intermediate amounts of traffic, between zero and infinity. We will present some of the relevant literature on the topic and new results concerning the PoA function in networks with affine or just continuous nondecreasing cost functions. We will also introduce intereresting open questions and new lines of research.

Short Bio
Valerio Dose obtained his Ph.D. in Mathematics in 2015 from the University of Rome "Tor Vergata", with a thesis in Algebraic Geometry and Number Theory. The following two years he was a postdoc at INdAM, and later he spent three years as a postdoc in the Department of Economics and Finance at LUISS "Guido Carli", where he has been working in Game Theory with an emphasis on routing in networks. The output of his research can be found in several papers on international journals and proceedings. He is currently an Adjunct Professor of Mathematics at LUISS "Guido Carli".