CEU Department of Network and Data Science | CENTRAL EUROPEAN UNIVERSITY

DETECTING AND MEASURING BIAS IN ONLINE PLATFORMS: A NETWORK SCIENCE APPROACH

A PUBLIC TALK BY

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ABSTRACT | The last few years have witnessed the rise of the Sharing Economy, a collection of decentralized online platforms whose users exchange knowledge, goods, and resources on a peer-to-peer basis. Sharing Economy platforms are often praised for their meritocratic approach, where all participants, regardless of their gender or race, receive the same opportunities to succeed through digital peer review mechanisms. Yet, they have recently come under fire due to reports of discriminatory behaviors and manipulations of their reputation systems. This raises an important question: are Sharing Economy platforms fair marketplaces, where all participants operate on a level playing field, or are they large-scale online aggregators of offline human biases? In this talk I will address this question on a number of examples, showing how online platforms can be represented in terms of networks, and how this allows to detect and measure some of the biases that might affect their users' behavior. In particular, I will present evidence of avoidance between users from different genders and racial backgrounds in Airbnb, and I will show how user reputation scores are distorted by the widespread practice of reciprocating highly positive ratings in a variety of platforms. I will conclude by discussing how these findings can be used to provide platform design recommendations, aimed at exposing and possibly reducing the biases we detect, in support of a fairer and more inclusive growth of Sharing Economy platforms.

BIO | Giacomo Livan is an Early Career Fellow of the UK Engineering and Physical Sciences Research Council based at University College London's Department of Computer Science, with a joint appointment at the Systemic Risk Centre of the London School of Economics. His research aims at understanding the emergent behavior of socio-economic systems with a combination of data-driven approaches and theoretical modelling inspired by the Physics of complex systems.