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SEVENTH SEMINAR

D² SEMINAR SERIES

Florence Center for Data Science 'Double' Seminar Series

Florence Center for Data Science is happy to present the first seminar of the Series on **November 12th**, from **2 - 3.30 pm**

Click on the link below to participate:
https://us02web.zoom.us/webinar/register/WN_hjjYNaS1Tmqz1debdP-BQA

SPEAKERS, TITLES, ABSTRACTS:

Luigi Brugnano - Department of Mathematics and Computer Science "Ulisse Dini", University of Florence

Title: Recent advances in bibliometric indexes and their implementation

Abstract: Bibliometric indexes are nowadays very commonly used for assessing scientific production, research groups, journals, etc. It must be stressed that such indexes cannot substitute to enter the merit of the specific research but, nonetheless, they can provide a gross evaluation of its impact on the scientific community. That premise, the currently used indexes often have drawbacks and/or sensibly vary for different subjects of investigation. For this reason, in [1] an alternative index has been proposed, based on an idea akin to that of the Google PageRank. Its actual implementation has been recently done in the Scopus database [2]. In this talk, the basic facts and results of this approach will be recalled.

[1] P.Amodio, L.Brugnano. Recent advances in bibliometric indexes and the PaperRank problem. Journal of Computational and Applied Mathematics 267 (2014) 182-194. http://doi.org/10.1016/j.cam.2014.02.018
[2] P.Amodio, L.Brugnano, F.Scarselli. Implementation of the PaperRank and AuthorRank indices in the Scopus database. Journal of Infometrics 15 (2021) 101206. https://doi.org/10.1016/j.joi.2021.101206

Veronica Ballerini - Department of Statistics, Computer Science, Applications "G. Parenti", University of Florence

Title: Fisher's Noncentral Hypergeometric Distribution for the Size Estimation of Unemployed Graduates in Italy
(joint work with Brunero Liseo, University Sapienza di Roma)

Abstract:
To quantify unemployment among those who have never been employed is often tough. The lack of an administrative data flow attributable to such individuals makes them an elusive population. Hence, one must rely on surveys. However, individuals' response rates to questions on their occupation may differ according to their employment status, implying a not-at-random missing data generation mechanism. We exploit the underused Fisher's noncentral hypergeometric distribution (FNCH) to solve such a biased urn experiment. FNCH has been underemployed in the statistical literature mainly because of the computational burden given by its probability mass function. Indeed, as the number of draws and the number of different categories in the population increases, any method involving the evaluation of the likelihood is practically unfeasible. Firstly, we present a methodology that allows the approximation of the posterior distribution of the population size via MCMC and ABC methods. Then, we apply such methodology to the case of graduated unemployed in Italy, exploiting information from different data sources.