



SEMINARIO

Dr. Giovanni Cerulli

**Research Institute on Sustainable Economic Growth,
National Research Council of Italy**

“The Ontology and Practice of Machine Learning”

Abstract: Recent years have witnessed an unprecedented availability of information on social, economic, and health-related phenomena. Researchers, practitioners, and policymakers have nowadays access to huge datasets (the so-called “Big Data”) on people, companies and institutions, web and mobile devices, satellites, etc., at increasing speed and detail.

Machine learning is a relatively new approach to data analytics, which places itself in the intersection between statistics, computer science, and artificial intelligence. Its primary objective is that of turning information into knowledge and value by “letting the data speak”. To this purpose, machine learning limits prior assumptions on data structure, and relies on a model-free philosophy supporting algorithm development, computational procedures, and graphical inspection more than tight assumptions, algebraic development, and analytical solutions. Computationally unfeasible few years ago, machine learning is a product of the computer’s era, of today machines’ computing power and ability to learn, of hardware development, and continuous software upgrading.

This seminar is a primer to approach the logic and use of machine learning in the social sciences. We will show the ontological roots of machine learning, its development along statistical theory and modelling, its link to big data and artificial intelligence, and finally, its practical use. We comparatively discuss advantages and limitations of various machine learning methods, focusing on both inferential and predictive problems. Finally, we will sketch the link between machine learning and artificial intelligence.

Centro di Ricerca e Servizio sull'Innovazione e l'Imprenditorialità (CII)



Università Politecnica delle Marche

Short Bio: Giovanni Cerulli holds a degree in Statistics and Economics, and a PhD in Economics (both at the Sapienza University of Rome). His research interests are about statistic and econometric modeling, with a special focus on the econometrics of program evaluation and causal inference. Also, he does research on "machine learning" and computational econometrics. Giovanni developed some original models for quantitative program evaluation, such as models for continuous treatment, neighborhood interaction, as well as nonparametric extensions of existing models. In applications, his research activity has focused mainly on measuring the effects of technological policies on firm economic and technological performance. He also covered applications in banking and finance.

As of February 2020, the Research Papers in Economics (RePEc) archive ranks his profile among the top 5% authors in various ranks. Furthermore, RePEc ranks his profile in the 19th position among the Italian economists for the scientific production of the last 10 years.

Giovanni is Editor-in-Chief of the International Journal of Computational Economics and Econometrics, and an associate editor of the World Review of Science, Technology and Sustainable Development. He is also coordinator of GRAPE - Research Group on the Analysis of Economic Policies. Giovanni also authored the book: Econometric Evaluation of Socio-Economic Programs: Theory and Applications (Springer, 2015).

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24 novembre 2020 - ore 16:00-17:00

[Partecipa al seminario](#)

Polo Monte Dago – via Breccie Bianche 12

Gli interessati sono invitati a partecipare