Regimes Identification and Data Compression: Problems and Applications

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Abstract

Data Science is grounded on the remarkable availability of data. Such an abundance leads to unavoidable concerns related to managing large datasets. This talk enters this debate by providing some remarks on identifying regimes in the temporal datasets and exploring their stochastic structure. On this, we also discuss data compression frameworks, with special attention to the competing targets of maintaining the features of the original sample and pursuing a simplification of the considered sample. Models, applied contexts, and open problems will be highlighted.

Short Bio

Roy Cerqueti (PhD) is Full Professor of Statistics at Sapienza University of Rome, Italy, Director of the Doctoral School in Social and Economic Sciences and Member of the Scientific Board of the Italian Association for Mathematics Applied to Social and Economic Sciences. He is also Research Affiliate of the GRANEM, a Research Center hosted by the University of Angers, France, and Distinguished Visiting Professor at the Royal Holloway University of London, UK. Previously, he was Professor of Mathematical Methods for Economics, Finance, and Operations Research at London South Bank University. He was also a review Panel expert in the COST Action Proposal Submission, Evaluation, Selection, and Approval procedure (appointment by the Italian Minister of University – Office of the National Coordinator of COST projects) from 2017 to 2019. He has published over 200 scientific articles, most of them in highly ranked international journals. He regularly participates in international conferences as an invited speaker. He has several editorial assignments and regularly performs referral services for many journals and scientific institutions. He has participated in research projects at a national and international level, also as Principal Investigator. He has carried out a broad teaching activity and has delivered invited seminars and courses at prestigious international universities. His current research focuses on data science, complex networks, management science, mathematical and statistical modelling, optimization, and their applications to economics, finance, and social science.

Declaration on Generative AI

The author has not employed any Generative AI tools.