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Analytical Focus and Contextuality, Exploiting Resolution Scale, Ad-dressing Bias

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Abstract

Examples are provided of the following. The Correspondence Analysis, also termed Geometric Data Analysis, platform, exploiting conceptual resolution scale, and having both analytical focus and contextualization,this semantically maps qualitative and quantitative data. Big Data analytics has new challenges and opportunities, and key factors are security through aggregation and ethical accuracy of individual mapping; and process-wise, this is multi-resolution analysis carried out. For the analytical topology of the data, from hierarchical clustering, the following is developed, with properties noted here, and essentially with linear time computational complexity. For text mining, and also for medical and health analytics, the analysis determines a divisive, ternary (i.e. p-adic where p = 3) hierarchical clustering from factor space mapping. Hence the topology (i.e. ultrametric topology, here using a ternary hierarchical clustering), related to the geometry of the data (i.e. the Euclidean metric endowed factor space, semantic mapping, of the data, from Correspondence Analysis). Determined is the differentiation in Data Mining of what is both exceptional and quite unique relative to what is both common and shared, and predominant. A major analytical theme, started now, is for Mental Health, with analytical focus and contextualization, with the objective for interpretation of mental capital. Another analytical theme is to be for developing economies.

Biography:

BA Mathematics, BAI Engineering Science, from Trinity College Dublin, MSc,information retrieval. PhD, Doctorat de troisi_eme cycle, from Professor Jean-Paul Benz_ecri, Mathematical Statistics, in Universit_e Pierre et Marie Curie,Paris 6. HDR degree, "Pattern Recognition in Astronomy", from what is now Universit_e de Strasbourg. In 1984, I was a visiting scientist, in the Joint Re-search Centre, Centro comune di ricerca, Ispra, Italy. For 12 years, Senior Scientist in the European Space Agency, for the Hubble Space Telescope, based in the European Southern Observatory, in Garching, Munich, Germany. I have 28 books published, many edited; 175 journal papers; 42 survey and contributed articles in books, 127 papers in conference proceedings and edited volumes. Listed on my web page, www.fmurtagh.info, are publications, Membership and Fellowship of many organisations; the organisations where I am the Chair, or Board member or Council member; medals awarded; and journal editorial work.

Speaker Publications:

1. Keiding N, Louis TA (2016) Perils and potentials of self-selected entry to epidemiological studies and surveys. Journal of the Royal Statistical Society A 179: 319-376
2. Lebaron F (2009) How Bourdieu "quantified" Bourdieu: the geometric modelling of data, Chapter 2 in K. Robson and C. Sanders, Eds., Quantifying Theory: Pierre Bourdieu, Springer.
3. Lebaron F (2009) Geometric Data Analysis in a sociological research program, The case of Bourdieu's sociology, presentation at SLDS, Statistical Learning and Data Science, Conference.
4. Murtagh F, Pianosi M, Bull R (2016) Semantic Mapping of Discourse and Activity, Using Habermas's Theory of Communicative Action to Analyze Process. Quality and Quantity, 50: 1675-1694.
5. HSCIC, Health and Social Care Information Centre (National Health Service, UK) (2009) National Statistics Adult Psychiatric Morbidity in England 2007, Results of a household survey, Appendices and Glossary.

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