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# Big Data Analysis and Data Mining

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### Large-scale twitter interactive analytics of festivals: visualization and verbalization of data

In F Murtagh, “*Data Science Foundations: Geometry and Topology of Complex Hierarchic Systems and Big Data Analytics*”, the geometry (in particular, based on interrelationships between all that we are dealing with, and therefore the semantics), and topology (in particular, hierarchical topology) are described in how they underpin data science and all that is associated with that. David Hand, “Statistical challenges of administrative and transaction data” lists challenges for statistical treatment of data. A nice concluding note is that “the fact that the data are (usually) merely observational, so elucidation of causality is difficult”. Here in our data mining of large scale Twitter data sources, relating to music, film, and cultural festivals, we aim to carry out data mining that will have important outcomes in the social and perhaps other contexts. Some previous work is recorded in this paper: F Murtagh, “Semantic mapping: towards contextual and trend analysis of behaviors and practices”, in K Balog, L Cappellato, N Ferro, C MacDonald, Eds., Working Notes of CLEF 2016-Conference and Labs of the Evaluation Forum, Évora, Portugal. In this work the foundations of data science, as described comprehensively in Murtagh, 2017 are to be pursued in the theme area of social media for the cultural patterns of behaviour and of impact. Furthermore, the statistical challenges that are at issue in Hand (2018), also very well characterize the framework for statistics at the core of data science.

### Biography

Fionn Murtagh is a Professor of Data Science and was a Professor of Computer Science, including Department Head, in many universities. He was Editor-in-Chief of the *Computer Journal* (British Computer Society) for more than 10 years, and is an Editorial Board Member of many journals. With over 300 refereed articles and 30 books authored or edited, his fellowships and scholarly academies include: Fellow of: British Computer Society (FBCS), Institute of Mathematics and its Applications (FIMA), International Association for Pattern Recognition (FIAPR), Royal Statistical Society (FRSS), Royal Society of Arts (FRSA), Senior Fellow, Higher Education Academy (SFHEA). He was an Elected Member of: Royal Irish Academy (MRIA); Academia Europaea (MAE); Senior Member of IEEE; Board Member and EuADS (European Association of Data Science).

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