Structure and conquer with Regularized Generalized Canonical Correlation Analysis

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In contrast to standard data that is structured by a single individuals × variables data matrix, structured data are characterized by multiple and heterogeneous sources of information, interconnected, potentially of high dimensions. In addition, each source of information may also have a complex structure (e.g. tensor structure). The need to analyze the data by taking into account their natural structure appears to be essential but requires the development of new statistical methods. More specifically, a general framework for structured data analysis through Regularized Generalized Canonical Correlation Analysis is presented. Challenging applications stemming from molecular biology will support the purpose of the talk.

Keywords: Regularized Canonical Correlation Analysis; Multiblock analysis; Multigroup analysis; Multiway analysis.