Consecutive independence and correlation transform (C-ICT) is a data fusion framework developed for the joint analysis of more than two datasets [1]. The method exploits the strength of independent component analysis (ICA) and independent vector analysis to identify the maximally correlated components across datasets. In the first step of the method, ICA is performed on individual datasets separately to obtain maximally independent components and corresponding subject profile matrices (mixing matrices). In the next step, IVA with Gaussian distribution (IVA-G) [2] is performed on the subject profile matrices of different datasets to identify the profiles (and components) maximally correlated across datasets. Since C-ICT is a framework, other methods such as canonical correlation analysis (CCA) or multiset CCA (MCCA) can also be used instead of IVA-G to identify the correlated components [3].

C-ICT is fully flexible in terms of the number of datasets combined, the numbers of orders of the signal subspace for each dataset, and the discovery of “one-to-many associations” across multiple datasets. C-ICT is also applicable to both multiset and multimodal datasets.

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