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## **Analysing attributed network: a DISTATIS-Based approach**

In recent years, the literature has proposed different studies that combine the analysis of node-level attributes alongside topological information of the network. These proposals range from hierarchical clustering algorithms including relational constraints to communities in the context of Subgroup Discovery, and data-driven probabilistic methods on multilayer networks. While these methods have been proposed to integrate structural and attribute-based information, achieving a balanced and coherent representation remains challenging. In this work, we apply DISTATIS, a three-way multidimensional scaling technique, to jointly analyze network topology and node attributes. Through simulations on networks with different attribute types, our results demonstrate that DISTATIS effectively captures the coherence between the attributes (qualitative and quantitative) and network structure. This approach offers a valuable tool for extracting complex relationships in real-world networks where both structural and attribute-driven factors are crucial.

### **Keywords/Topics**

attributed network, DISTATIS, qualitative attributes, quantitative attributes

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