Special Issue

Bayesian Network Modelling in Data Sparse Environments

Message from the Guest Editors

Bayesian networks are graphical tools to model dependencies of multivariate data. Building BNs consists of two steps: structure specification and domain-specific parameterization. However, these steps are iterative when communicated to stakeholders, monitored and reviewed. They are frequently refined using experts' input.

Both structure and parameters can be obtained either from data or experts, but they are typically obtained using a combination of both. Despite the current data-rich environment, often there are insufficient data to evaluate future events and their interactions.

While formal protocols exist to quantify parameters in data-sparse environments, there is a gap in well-defined procedures for the structure specification. More research is required to appropriately address the inherent subjectivity involved in constructing BNs in such environments. Moreover, transparency in reporting, documenting, and justifying choices made while constructing BNs should be a priority.

We invite submissions, including original research articles and reviews, both from an applied perspective as well as methodological developments relating to all issues outlined above.

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