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## **Challenges in Tensor Mining**

Data in many disciplines inherently has more than two axes of variation and can be arranged as tensors (or multiway arrays). Tensor decompositions have proven to be successful in extracting the underlying structure in such datasets. However, analyzing tensors is still challenging. Algorithms fitting tensor models depend heavily on the initial set-up, e.g., number of components and initialization of the component matrices. Also, models handling missing data and supervised learning are still to be developed. We discuss these challenges with example applications from computational neuroscience and social network analysis