

There are different models, which describe conditional independence induced by multivariate distributions. Models such as Undirected Graphs, Directed Acyclic Graphs, Essential Graphs and Annotated Graphs are introduced and compared in this thesis. The focus is put on annotated graphs. It is shown that annotated graphs represent equivalence classes of DAG-representable relations. An algorithm for reconstruction of an annotated graph from an essential graph as well as the algorithm for the inverse procedure are given. Some properties of a characteristic imset, which is a non-graphical representation, are discussed. A relationship between annotated graphs and characteristic imsets is investigated, an algorithm, which reconstructs an annotated graph from a characteristic imset is given.