

VORträge zum Operations Research

Kolloquium des Instituts für Operations Research

Zeit: Montag, 29. Januar 2018, 16:15 Uhr

Ort: Raum 116, Gebäude 11.40

Es spricht: Prof. Dr. Ingrid Hobæk Haff, Universität Oslo

Zum Thema: **Structure learning in Bayesian Networks using regular vines**

Abstract: Learning the structure of a Bayesian Network from multidimensional data is an important task in many situations, as it allows understanding conditional (in)dependence relations which in turn can be used for prediction. Current methods mostly assume a multivariate normal or a discrete multinomial model. We propose a new greedy learning algorithm for continuous non-Gaussian variables, where marginal distributions can be arbitrary, as well as the dependency structure. It exploits the regular vine approximation of the model, which is a tree-based hierarchical construction with pair-copulae as building blocks. We show that the networks obtainable with our algorithm belong to a certain subclass of chordal graphs. We illustrate through several examples and real data applications that the possibility of using non-Gaussian margins and a non-linear dependency structure outweighs the restriction to chordal graphs.

Die Vorträge zum Operations Research wenden sich an alle Interessierten!

Bei Rückfragen wenden Sie sich bitte an:

Prof. Dr. Oliver Grothe, Institut für Operations Research.