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Invitation for a Guest Lecture

Dear colleagues,

I want to invite you to the following guest lecture of Prof. Manfred Jaeger, Aalborg University, Denmark.

"Probabilistic Relational Models: Recent Developments"

Friday, February 27th, 2015 at 11:00 hrs
Seminar Room IDEG134 at Inffeldgasse 16c, ground floor.

Please forward this invitation to colleagues and friends. Hope to see you all there!

Franz Pernkopf

Abstract
Probabilistic relational models combine probabilistic graphical models with the high-level representation tools of predicate logic. Together with associated "statistical relational learning" techniques, these models have seen a rapid development over the last 15 years. One of the earliest probabilistic relational modeling frameworks are "Relational Bayesian Network". Like other probabilistic relational models, relational Bayesian networks were originally designed for models involving discrete random variables only. Several proposals for probabilistic relational models that also allow for continuous random variables have been made in recent years. However, serious challenges in terms of model semantics and efficient inference procedures have not yet been overcome. In this talk I will present a limited but already very useful extension of relational Bayesian networks with continuous variables, and demonstrate its applicability for community-structure analysis of multi-relational social networks. I will also briefly review recent developments in the complexity-theoretic analysis of so called "lifted" inference techniques for probabilistic relational models.

This event is organized in the framework of the COMET K project *Advanced Audio Processing (http://www.comet-aap.at/),* the COMET K project *Acoustic Sensing and Design ASD,* and it is sponsored by the Faculty of Electrical and Information Engineering.