

Statistical Relational Learning using ProbLog

– Invited Talk –

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Abstract. This talk shall introduce the field of statistical relational learning, which is concerned with the use of expressive relational representations, reasoning about uncertainty and learning. Techniques in this domain are well suited for addressing some of the challenges of the workshop.

I shall illustrate several of the issues using the probabilistic Prolog system called *ProbLog* that was developed over the past few years in Leuven. I shall use ProbLog to illustrate issues concerning the representation of semantic knowledge, the challenge of inference and methods for the learning of parameters and rules. Furthermore, some applications in biological network mining and analysis will be presented.

Keywords: Relational Learning, Statistical Relational Learning, Uncertainty Reasoning, Probabilistic Methods