Student project / BA-/MA-Thesis

Extending a Probabilistic Reasoning and Decision-Making Framework

**Topic**

Bayesian Networks offer a nice and intuitive framework for probabilistic reasoning and their graphical nature can often be interpreted quite nicely. Our own inference implementation PRIMO (https://gitlab.ub.uni-bielefeld.de/scs/PRIMO) already allows the use of different kinds of networks as well as inference methods, however many more scenarios are possible.

**Potential topics**

- Add support for various kinds of continuous distributions.
- Extend upon existing learn or inference algorithms.
- Add support for different kinds of networks (e.g. Conditional Random Fields etc)

**Recommended skills**

- Decent knowledge of Bayesian Networks and probabilistic inference
- Proficient knowledge in probability theory

**Contact**

- Jan Pöppel
- jpoeppe@techfak.uni-bielefeld.de