Zugzwang Meetings

2023-02-28 | 15:00 | Looking for Application Examples

What **applications** are we looking for? - (Stochastic) Plan Generation - Yale-Shooting Problem - (Stochastic) Situation Calculus - Frame Problem - Given a **Bayesian Network** (or a **Markov Networks**): - Represent it. - Solve the common probability tasks: marginals, conditionals, parameter learning, inferring unobserved variables, sample generation, *etc.* - Given a *solved* ASP specification: - What is the marginal probability of the atom a? - What other probability queries are important to consider? - Given an *unsolved* ASP specification: - What is the probability (distribution?) of the probabilistic fact a? - What other questions are relevant? E.g. the distribution family of a fact? - Given a *solved* ASP specification and a set of *samples*: - How do the probabilities inferred from the specification match the ones from the empiric distribution? - Given two *solved* ASP specification and a set of *samples*: - Which specification best describes the empiric distribution?

What should be the **task for the scholarship student**? *Use the Python API of* `clingo`. 1. Read a string and extract probability annotations; Associate those annotations with the respective atoms. 2. Call `clingo` to get stable models. 3. Support **computation of the equivalence classes**: *Which functions and relations?* 4. Compute event probability using *weighted model counting* on the equivalence classes. 5. Read a Bayesian Network from a file (BIF, DSC, NET, RDA, RDS, …) and generate an annotated "ASP" specification.

2022 | AAAI | Inference and Learning with Model Uncertainty in Probabilistic Logic Programs - Is **"Epistemic Uncertainty (EU)"** the right framework for Zugzwang? How relevant are the epistemic questions in this paper to our work? - EU can be represented by *Credal Sets, Subjective Logic* and *Beta Distributions*? - **Experiments** made with BNs from (Kaplan and Ivanovska 2018) and larger networks from the BNLearn repository. - **Are networks, Bayesian Networks in particular, a "good enough" pool of "example applications" to us, for now?**

2023-01-10 | 15:00

- Paper
- Project
- Latent Facts

2022-12-12

- Is the project proposal ok? How long/detailed should it be?
- Initial exploratory code `event_lattice.py` and `EventLattice.ipynb` done.
- Start writing paper: Introduction, state of the art, motivation
    - Identify key problems
    - Target Conferences
        * KR;
        * ICLP;
        * ECAI
- Next task for prototype:
    - Get stable models from potassco/s(casp)
    - other?

2022-12-05

- Created shared folder (gdrive:zugzwang) https://drive.google.com/drive/folders/1xs-cjxWJzn2JxqeNgh9LX5xWN50BW-Be?usp=share_link
- Refine project tasks, for Bachelor, M.Sc., Ph.D. students and for researchers.