

Summary on Towards Context-adaptive Utterance Interpretation

Contribution

This paper classifies four types of contexts, namely, situational(time,place), discourse(what has been said), interlocutionary(user/system properties), domain(ontological knowledge), which contribute information to natural language understanding.

It specifies the requirements of the contextual analysis for language understanding systems are: the ability to model the data collected in the experiments, the ability to combine the probabilistic observations from various heterogeneous knowledge sources and the ability to be robust against missing and uncertain information.

The authors of the article suggest Bayesian Network with variable elimination algorithm can be a model to perform contextual analysis. This model can be enhanced by a decision panel which can combine the results on common decision of different models of different context types.

Limitation

Employment of Bayesian Network implies that the sample size of experiments have to be sufficiently large to obtain accurate priori.

Decision on the weight of each expert node in decision panel is vague.