

A bayesian approach to intention-based response generation

ABSTRACT

The statistical approach to natural language generation of overgeneration-andranking suffers from expensive over generation. This article reports the findings of response classification experiment in the new approach of intention-based classification-andranking. Possible responses are deliberately chosen from a dialogue corpus rather than wholly generated, so the approach allows short ungrammatical utterances as long as they satisfy the intended meaning of the input utterance. We hypothesize that a response is relevant when it satisfies the intention of the preceding utterance, therefore this approach highly depends on intentions, rather than syntactic characterization of input utterance. The response classification experiment is tested on a mixed-initiative, transaction dialogue corpus in the theater domain. This article reports a promising start of 73% accuracy in prediction of response classes in a classification experiment with application of Bayesian networks.

Keyword: Bayesian Networks, Classification, Dialogue Systems, Natural Language