Dependent Query Responses

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We will address the issue of automatically recognizing query responses (q-responses), i.e. responses that answer a query with a query. Our starting point is a corpus study of q-responses covering BNC, CHILDES, BEE and AMEX and develop a taxonomy for query responses (see Łupkowski and Ginzburg, 2016). In the talk we focus on the DP class (dependent questions, i.e. cases where the answer to the initial question depends on the answer to a q-response).

In the first part of our talk we provide a formal analysis of such responses using the framework of Inferential Erotetic Logic (IEL; Wiśniewski 2013).

The second part covers automatic classification of CR (clarification requests) and DP types of q-responses. For this task 154 question-question pairs of each type were selected. Further they were divided on the training set (204 instances, 102 of each class) and testing set (104 instances, 52 of each class). As a learning approach supervised learning was used with two models: BoW and N-gram ($N = 2$). The best results obtained for the BoW model are CR: F-score=0.757 and DP: F-score=0.762. For the N-gram model—CR: F-score=0.901 and DP: F-score=0.887. We will present detailed results for this classification, discuss misclassified cases and potential future development of the classifier to cover all observed q-responses types. In this part we will also present a procedure which generates q-responses based on question dependency and erotetic search scenarios (a tool developed within IEL).

References: • Łupkowski, P. and Ginzburg, J. (2016): Query responses. *Journal of Language Modelling*, 4(2):245–293. • Wiśniewski, A. (2013): *Questions, inferences and scenarios*. College Publications, London.