

## Selecting Answers for Questions with Multiple Answer Choices in Arabic Question Answering Based on Textual Entailment Recognition

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**Abstract :** Question Answering (QA) system is one of the most important and demanding tasks in the field of Natural Language Processing (NLP). In QA systems, the answer generation task generates a list of candidate answers to the user's question, in which only one answer is correct. Answer selection is one of the main components of the QA, which is concerned with selecting the best answer choice from the candidate answers suggested by the system. However, the selection process can be very challenging especially in Arabic due to its particularities. To address this challenge, an approach is proposed to answer questions with multiple answer choices for Arabic QA systems based on Textual Entailment (TE) recognition. The developed approach employs a Support Vector Machine that considers lexical, semantic and syntactic features in order to recognize the entailment between the generated hypotheses (H) and the text (T). A set of experiments has been conducted for performance evaluation and the overall performance of the proposed method reached an accuracy of 67.5% with C@1 score of 80.46%. The obtained results are promising and demonstrate that the proposed method is effective for TE recognition task.

**Keywords :** information retrieval, machine learning, natural language processing, question answering, textual entailment

**Conference Title :** ICIET 2019 : International Conference on Information Engineering and Technology

**Conference Location :** Dublin, Ireland

**Conference Dates :** March 21-22, 2019