

ABSTRACT

Question Answering (QA) is a system that automatically retrieves the correct answers from questions asked by a human in natural language. In the closed-domain QA system, some research has been conducted on the Islam domain to assist Muslims with questions about Islam from the holy Quran. One of the breakthroughs in QA system development is the usage of word embeddings and neural networks. The neural network model typically takes as input dense, low-dimensional vectors that model the context (i.e., meaning and usage of a word). We proposed to use a pre-trained word embedding and fed them into the Siamese LSTM model to understand the contextual meaning in the questions. The similarity function in the final layer of the Siamese LSTM is used to predict the similarity between the questions and the knowledge base. The proposed QA evaluation is in P@5, recall, and MAP: 0.4820, 0.9508, and 0.8463, respectively. The Siamese LSTM could model the semantics and contextual meaning between user questions and the knowledge base. Also, the use of word embedding enabled the model better to capture the questions' contextual meaning and semantics.

Keywords: Question Answering, Question Retrieval, Siamese LSTM, word embedding, neural networks model