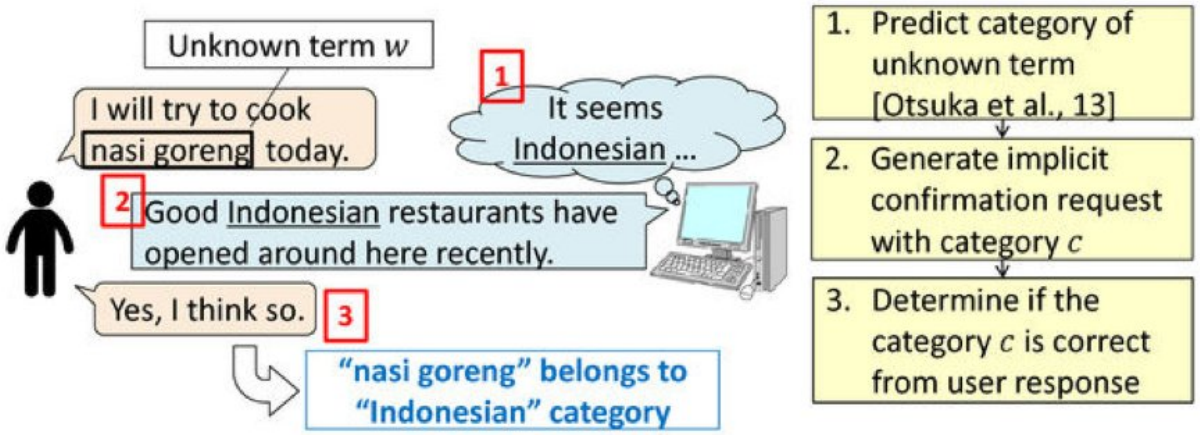
Technique allows AI to learn words in the flow of dialogue

December 27 2017



Example of implicit confirmation: 1. Predict category of unknown word.2. Generate implicit confirmation request with category c.3. Determine if the category c is correct from user response. Credit: Osaka University

A group of researchers at Osaka University has developed a new method for dialogue systems. Lexical acquisition through implicit confirmation is a method for a computer to acquire the category of an unknown word over multiple dialogues by confirming whether or not its predictions are correct in the flow of conversation.

Conversational software, chatbots and voice assistant apps have appeared in recent years; however, in these systems, computers basically answer

questions based on what has been preprogrammed. There is another method in which a computer learns from humans by asking simple repetitive questions; however, if the computer asks only questions such as "What is xyz?" in order to acquire knowledge, users will lose interest in talking with the computer.

The group led by Professor Komatani developed an implicit confirmation method by which the computer acquires the category of an unknown word during conversation with humans. This method aims for the system to predict the category of an unknown word from user input during conversation, to make implicit confirmation requests to the user, and to have the user respond to these requests. In this way, the system acquires knowledge about words during dialogues.

In this method, the system decides whether the prediction is correct or not by analyzing the user response following each request by using machine learning techniques. In addition, this system's decision performance improved by taking the classification results gained from dialogues with other users into consideration.

Chatbots in the market speak to anyone in the same manner. However, as dialogue systems become popular in the future, computers will be required to speak by learning from a conversational partner according to the situation. This group's research results are a new approach toward the realization of dialogue systems in which a computer can become smarter through conversation with humans and will lead to the development of dialogue systems with the ability to customize responses to the user's situation.

More information: www.superlectures.com/sigdial2 … r-multiple-dialogues

Provided by Osaka University

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