

基於特徵粒度之訓練策略於中文口語問答系統之應用

A Feature-granularity Training Strategy for Chinese Spoken Question Answering

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摘要

在口語問答系統(Spoken Question Answering, SQA)中，一個簡單且直覺的作法，是先將一段音訊透過自動語音辨識(Automatic Speech Recognition, ASR)轉換成一連串的辨識文字結果，再輸入給現有各式基於文字的問答系統模型來完成任務需求。然而，這樣的作法通常會遭遇自動語音辨識錯誤(ASR Errors)的影響，導致問答系統模型的效果不如預期。為了解決此一問題，本論文提出一種基於輸入特徵粒度的訓練策略，其目標是改善自動語音辨識錯誤所造成的效能損失，而且不需要額外模型的需求即可完成。我們將本論文所提出之訓練策略運用於中文口語機器閱讀理解(Machine Reading Comprehension, MRC)任務之中，驗證此一方法對於自動語音辨識錯誤的影響與改善。

關鍵詞：口語問答系統，語音辨識，特徵粒度，訓練策略。

Abstract

In a spoken question answering (SQA) system, a straightforward strategy is to transcribe given speech utterances into text using an ASR system. After that, classic methods can be readily used to the auto-transcribe text. However, such a strategy usually can not achieve a good performance due to the recognition errors. In order to mitigate the problem, in this paper, we

propose a feature-granularity training strategy for SQA. Specifically, the proposed method is a training strategy, thus we don't need to modify the classic SQA (or QA) methods. In the experiments, we evaluate the proposed feature-granularity training strategy on a Chinese machine reading comprehension task. The results demonstrate that the proposed strategy can overcome the effects caused by the recognition errors on the spoken machine reading comprehension task.

Keywords : Spoken question answering, automatic speech recognition, feature-granularity, training strategy.

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