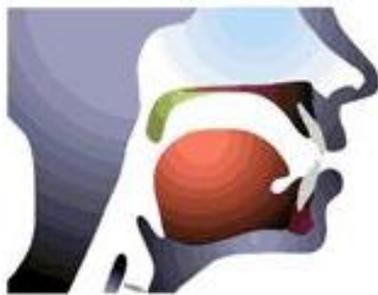


Semester or master thesis

Automatically Checking Pronunciation

In computer-based language courses, pronunciation training is an interesting topic. For such a training, the computer has to decide if the language learner has uttered a certain word correctly and in the negative case the computer should indicate which phones have not been pronounced accurately enough.



In literature, there are many approaches to solve the problem of automatic pronunciation checking, ranging from pattern matching to statistical methods based on hidden Markov models (HMM). Pattern matching is advantageous in the context of language courses, because the method itself is language-independent and hence can be used for all languages of the portfolio of a course provider. The only requirement is the availability of reference utterances of the word used in the pronunciation training. But such reference utterances are anyway available in computer-based courses, because the learner must have the possibility to hear how words are correctly pronounced.

The statistical approaches perform better because they include statistical models of the phonemes of the concerned language. However, the set of phonemes and their pronunciation varies for language to language. Therefore, a specific solution is needed for each language.

In this work, a new approach has to be investigated. This approach is based on statistical models of so-called abstract acoustic elements (AAE) which are not language specific and thus the identical method can be applied for every language. The underlying idea of this approach is to model a reference utterance as a sequence of AAEs and to compare it with the sequence of AAEs recognized from the learner's utterance, i.e. the word to be checked.

Most of the work can be done in Matlab.

The work is suited as a semester or a master thesis for one or two students.

If you are interested in this topic or you want to know more about the work, please contact:

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