

Trans-disciplinary spoken language processing studies for scientific understanding of second language learner's characteristics

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ABSTRACT

Language and speech proficiency is considered to be an important factor to identify human beings. Though traditional studies on language and speech can reveal many aspects of their characteristics, we have not yet had a complete view of human's language and speech ability. I believe that trans-disciplinary studies will enable us to have its scientific modeling.

In this talk, I would like to introduce our research efforts on segmental duration control as an example of research towards computational human modeling. The computational modeling of segmental duration that we have been studying around three decades not only contributes to prosody control in speech synthesis technology but also gives an integrated view of individual timing characteristics studied in phonetic science. Together with duration control modeling, a series of perceptual studies on duration modifications needed for model evaluation have suggested us a unified view of scientific understanding on rhythm and timing. Through the introduction of our current efforts on the objective evaluation of 2nd language (L2) proficiency in speech timing control, we will see that these models and findings are useful for L2 learning and acquisition.

To conclude my talk, I finally introduce research consortium called AESOP (Asian English Speech cOrpus Project) where researchers in different fields (speech science, informatics, phonetics, psychology and language education) have started to work together by collecting commonly sharable L2 language and speech data.

