

13th March 2015

Sub: Cover letter

Dear Editor-in-Chief,

This cover letter refers to the recently submitted paper titled "Deep-neural network approaches for speech recognition with heterogeneous groups of speakers including children" for publication in *Cambridge journal on Natural Language Engineering*.

In this paper we have proposed hybrid deep neural network (DNN) - hidden Markov model (HMM) based methods to tackle speech recognition in heterogeneous groups of speakers including children. Two different kinds of approaches have been introduced in this paper.

Firstly, an approach that consists in adapting a general DNN to domain/language specific data is extended to target age/gender groups in the context of hybrid DNN-HMM Systems has been proposed.

Secondly we have proposed a novel approach in which the posterior probabilities of vocal-tract length normalisation warping factors are obtained with a separate DNN and combined with standard acoustic features as input to a DNN-HMM.

Finally, the different approaches presented in this paper have been combined to take advantage of their complementarity. System combination approaches have been shown to improve the baseline word error rate performance by about 10% relative.

We believe this paper fits in the scope of your journal and we would be honoured if it could be published among the high quality scientific materials that you are editing.

We hereby declare that we have no competing interests related to this article. For any further details regarding this paper, you can contact me as the corresponding author of this paper. Following are my contact details:

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Best Regards,

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