



人工智能学术研讨会 Academic Symposium on Artificial Intelligence (2019.11.4-8)

报告

懂听懂说的人工智能如何改善我们的学习及生活

Artificial Intelligence in Speech and Language Processing for Learning and Wellbeing

蒙美玲教授 | 香港中文大学系统工程与工程管理学系教授

Professor Helen MENG | Department of Systems Engineering and Engineering,
The Chinese University of Hong Kong



讲者介绍 Biography

Helen Meng is Patrick Huen Wing Ming Professor of Systems Engineering and Engineering Management at The Chinese University of Hong Kong (CUHK). She is the Founding Director of the CUHK Ministry of Education (MoE)-Microsoft Key Laboratory for Human-Centric Computing and Interface Technologies (since 2005), Tsinghua-CUHK Joint Research Center for Media Sciences, Technologies and Systems (since 2006), and Stanley Ho Big Data Decision Analytics Research Center (since 2013). Previously, she served as CUHK Faculty of Engineering's Associate Dean (Research), Chairman of the Department of Systems Engineering and Engineering Management, Editor-in-Chief of the IEEE Transactions on Audio, Speech and Language Processing, and presently Member of the ISCA International Advisory Council. She was elected ISCA Distinguished Lecturer 2015-2016. Her awards include the Ministry of Education Higher Education Outstanding Scientific Research Output Award 2009, Microsoft Research Outstanding Collaborator Award 2016 (1 in 32 worldwide), IEEE ICME 2016 Best Paper Award, IBM Faculty Award 2016, HKPWE Outstanding Women Professionals and Entrepreneurs Award 2017 (1 in 20 since 1999) and the CogInfoComm2018 Best Paper Award. Helen received all her degrees from MIT. Her research interests include speech and language technologies to support multilingual and multimodal human-computer interactions for eLearning and assistive technologies. Helen is a Fellow of HKCS, HKIE, IEEE and ISCA.

报告摘要 Abstract

Spoken language is a primary form of human communication. Spoken language processing techniques must incorporate knowledge of acoustics, phonetics and linguistics in analyzing speech. While great strides have been made in the community in general speech recognition, reaching human parity in performance, our team has been focusing on the problems of recognizing and analyzing non-native, learners' speech for the purpose of mispronunciation detection and diagnosis in computer-aided pronunciation training. In order to generate personalized, corrective feedback, we have also developed an approach that uses phonetic posterior-grams (PPGs) for personalized, cross-lingual text-to-speech synthesis given arbitrary textual input, based on voice conversion techniques. We have also extended our work to disordered speech, focusing on automated distinctive feature (DF)-based analyses of dysarthric recordings. The analyses are intended to inform intervention strategies. Additionally, voice conversion is further developed to restore disordered speech to normal speech. This talk will present the challenges in these problems, our approaches and solutions, as well as our ongoing work.

有兴趣合作之项目 Interested topics for future collaboration

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