

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
COLLEGE OF DESIGN AND ENGINEERING

Website: <https://cde.nus.edu.sg/ece>

Area: Signal Analysis & Machine Intelligence

Host: Professor Ge Shuzhi

TOPIC	:	Exploiting Unpaired Text for End-to-End Speech Recognition
SPEAKER	:	Ms. Wang Qinyi Graduate Student, ECE Dept, NUS
DATE	:	Friday, 10 February 2023
TIME	:	1:00PM to 2:00PM
VENUE	:	Join Zoom Meeting: https://nus-sg.zoom.us/j/82090161010?pwd=aXhKVENzN3ZYbHJuTnhsRzVqb1F3UT09 Meeting ID: 820 9016 1010 Passcode: 571400

ABSTRACT

End-to-end automatic speech recognition (ASR) models are typically data-hungry, which depend on a large speech dataset with text transcription, i.e. speech-text paired dataset, for the models to be effective. It remains an active area how to increase the linguistic competence of such ASR models with unpaired text data. The conventional techniques that employ an external language model (LM) suffer from high decoding complexity. Pre-training methods have problems of catastrophic forgetting, and model capacity gap between the pre-trained modules and the actual tasks. In this talk, we introduce a speech-and-text Transformer to leverage unpaired text and address the above issues. We conduct intra-domain and cross-domain experiments on AISHELL-1, LibriSpeech, and WenetSpeech corpora. Experimental results show competitive performance to the conventional shallow fusion method without increasing the model's computation latency during inference.

BIOGRAPHY

Wang Qinyi received the B.Eng. (First-Class) degree in Electrical Engineering from York University, ON, Canada, in 2018. She is currently a Ph.D. candidate at the Department of Electrical and Computer Engineering of National University of Singapore (NUS), Singapore, under the supervisions of Prof. Ge Shuzhi and Prof. Li Haizhou. Her research interests include automatic speech recognition and natural language processing.

<https://cde.nus.edu.sg/ece/highlights/events/>