

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
Website: <https://www.eng.nus.edu.sg/ece/>

Area: Integrated Circuits & Embedded Systems

Host: Dr Lin Longyang

TOPIC	:	Self-Learning Architecture for Low-Power Voice Activity Detection and Keyword Spotting
SPEAKER	:	Mr Teo Jinq Horng Graduate student, ECE Dept, NUS
DATE	:	19 September 2019, Thursday
TIME	:	2pm to 3pm
VENUE	:	E5-02-32, Engineering Block E5, Faculty of Engineering, NUS
ABSTRACT		
This work introduces a voice activity detector architecture with run-time supervised learning to train the machine learning model based on the actual noise environment, and an accurate on-chip labeler. Self-learning avoids the need for data generalization across different noise environments, enabling robust operation at severely degraded SNR, and model size shrinkage for lower area and power. Bit-accurate model simulations show that always-on operation at 80% accuracy at 0dB SNR is achievable, while calculations show that μW operation is possible.		
BIOGRAPHY		
Teo Jinq Horng is currently pursuing a Ph.D. degree from the National University of Singapore. His research interests include systems with scalable energy-quality and on-chip self-learning.		

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