

『Tsinghua Information Forum #111- SAMSUNG #9』



- **Title:** Machine Perception and Computational Auditory
- **Speaker :** Prof. Deliang Wang
- **Time:** 14:00-16:00 19th, July. 2013
- **Venue:** Room 9-206, ROHM Building

Abstract :

The lecture focuses on challenging problems that arise from real-world perception, and then attack them with multidisciplinary approaches. The analysis includes computational, cognitive/perceptual, and neurobiological perspectives. While paying close attention to cognitive and neurobiological processes, the thrust of the work conducted is computational. More specifically, the lecture focuses on models and algorithms for auditory scene analysis. In order to achieve the ultimate goal of constructing a cocktail party processor that possesses the human ability in cocktail party environments, one must understand individual analyses, such as pitch, location, amplitude and frequency modulation, onset/offset, rhythm, and so on. One must also incorporate top-down information including attention and recognition. The lab conducts research on a variety of topics under the general theme of computational audition. For example, this lab has originated the notion of the ideal binary mask, which formulates sound segregation a classification problem. This formulation has enabled the use of supervised learning for addressing the source separation problem.

Biography :

Prof. Deliang Wang received the Ph.D. degree from University of Southern California, Los Angeles, CA, in 1991. Currently, he is with the Department of Computer Science and Engineering (CSE) and the Center for Cognitive Science at The Ohio State University (OSU). He directs the OSU Perception and Neurodynamics Lab (PNL). He is also a faculty member of the OSU Laboratory for AI Research (LAIR) and a participating faculty member of the Biomedical Engineering Department. He was an IEEE Distinguished Lecturer (2010-2012), and is an IEEE Fellow. He is Co-Editor-In-Chief of Neural Networks, In addition, he serves on the editorial/advisory boards of Cognitive Computation, Cognitive Neurodynamics, Neural Computing and Applications, EURASIP Journal on Audio, Speech, & Music Processing, and IEEE Transactions on Audio, Speech, & Language Processing. He served as President of the International Neural Network Society in 2006, and currently serves on its governing board. His publications are 294 with citations 3458 until the end of 2012.