

講演会のご案内

Deep Learning and Transfer Learning

講師: **Bao-Liang Lu**

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日付場所: 2018年11月13日 15:00~16:30 図書館L821室

2018年11月15日 15:00~16:30 図書館L821室

TUTORIAL 1: An Introduction to Deep Learning and Transfer Learning

In this tutorial, we first present a brief introduction to the history of artificial neural networks and machine learning, then we will give an introduction to typical deep learning and transfer learning algorithms and their applications, including convolutional neural network (CNN), Long Short Time Memory (LSTM) network, multimodal deep learning, transfer component analysis (TCA), and transductive parameter transfer (TPT). To deal with real-world large-scale machine learning problems, we will introduce a general framework called min-max modular network for task decomposition and parallel learning. Finally, we will discuss the status and challenges of deep learning and artificial intelligence.



TUTORIAL 2: Multimodal Emotion Recognition Using Deep Learning and Transfer Learning

The field of affective computing aspires to narrow the communicative gap between the highly emotional human and the emotionally challenged computers by developing computer systems that recognize and respond to human emotions. The detection and modeling of human emotions are the primary studies of affective computing. Among various approaches to emotion recognition, the electroencephalography (EEG)-based model is more reliable because of its high accuracy and objective evaluation in comparison with other external appearance clues like facial expression and gesture. Various psychophysiology studies have demonstrated the correlations between human emotions and EEG signals. In this talk, we will present our recent work on investigating critical frequency bands and critical channels, investigating the stable patterns over time, gender difference in emotion recognition, and developing multimodal emotion recognition approach with deep learning and transfer learning.

BIOGRAPHY OF BAO-LIANG LU

Bao-Liang Lu received the Ph.D. degree in electrical engineering from Kyoto University, Kyoto, Japan, in 1994. From April 1994 to March 1999, He was a Frontier Researcher at the Bio-Mimetic Control Research Center, the Institute of Physical and Chemical Research (RIKEN), Japan. From April 1999 to August 2002, he joined the RIKEN Brain Science Institute, Japan, as a research scientist. Since August 2002, he has been a full professor at the Department of Computer Science and Engineering, Shanghai Jiao Tong University, China. He is the directors of the Center for Brain-Like Computing and Machine Intelligence and the Key Laboratory of Shanghai Education Commission Intelligent Interaction and Cognitive Engineering, Shanghai Jiao Tong University. His research interests include brain-like computing, neural network, machine learning, brain-computer interface and affect computing. He was the past President of the Asia Pacific Neural Network Assembly and the general Chair of the 18th International Conference on Neural Information Processing. He is a Steering Committee Member of IEEE Transactions on Affective Computing, Associate Editors of IEEE Transactions on Cognitive and Developmental Systems and IEEE Access, and a senior member of the IEEE.

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