Title: Medical Image Analysis with Deep Learning

Speaker : Prof. Yen-Wei Chen

Professor, College of Information Science and Engineering,

Ritsumeikan University, Japan

**Summary**

Recently, deep learning (DL) plays important roles in many academic and industrial areas especially in computer vision and image recognition. Deep learninguses a neural networkwith deep structure to build a high-level feature space. It learns data-driven, highly representative, hierarchical image features, which have proven to be superior to conventional hand-crafted low-level features and mid-level features. In ILSVRC2015 (an Annual competition of image classification at large scale), higher recognition accuracy by deep learning than human has been achieved [He et al, 2015]. Deep learning (DL) has also been applied to medical image analysis. Compared with DL-based natural image analysis, there are several challenges in DL-based medical image analysis due to their high dimensionality and limited number of labeled training samples. We proposed several deep learning techniques for medical image analysis including medical image segmentation, medical image detection and medical image recognition. In this keynote talk, I will talk about current progress and futures of medical image analysis with deep learning.

**Biography**

Yen-Wei Chen received the B.E. degree in 1985 from Kobe Univ., Kobe, Japan, the M.E. degree in 1987, and the D.E. degree in 1990, both from Osaka Univ., Osaka, Japan. He was a research fellow with the Institute for Laser Technology, Osaka, from 1991 to 1994. From Oct. 1994 to Mar. 2004, he was an associate Professor and a professor with the Department of Electrical and Electronic Engineering, Univ. of the Ryukyus, Okinawa, Japan. He is currently a professor with the college of Information Science and Engineering, Ritsumeikan University, Japan. He is also a visiting professor with the College of Computer Science, Zhejiang University, China. He was a visiting professor with the Oxford University, Oxford, UK in 2003 and a visiting professor with Pennsylvania State University, USA in 2010.

His research interests include medical image analysis, computer vision and computational intelligence. He has published more than 300 research papers in a number of leading journals and leading conferences including IEEE Trans. Image Processing, IEEE Trans. SMC, Pattern Recognition. He has received many distinguished awards including ICPR2012 Best Scientific Paper Award, 2014 JAMIT Best Paper Award, Outstanding Chinese Oversea Scholar Fund of Chinese Academy of Science. He is/was a leader of numerous national and industrial research projects.