深層類神經網路與語音訊號處理

機器學習領域，在 2006 年取得了突破性的進展。主要是由 Prof. Geoffrey Hinton 等人提出 deep learning neural network（DNN）。其被廣泛應用在語音辨認，影像識別，自然語言處理等等領域。尤其是目前各大公司的語音人機介面，如 Apple 的 Siri，Google 的 voice search 與 Microsoft 的 Cortana 等等，皆已經改成使用 DNN 語音辨認引擎。因此 DNN 已經成為語音訊號處理的主流技術。

所以，在此次演講中，我們將先介紹 DNN 的歷史，原理，架構與應用，並進一步探討其在語音訊號處理的應用，尤其是其在語音辨認領域的發展。最後將分享我們在語者辨認上使用 DNN 的經驗，與一些相關的公開資源。希望能讓大家了解與應用 DNN 技術。

Yuan-Fu Liao received the B.S., M.S., and Ph.D. de-grees from National Chiao Tung University (NCTU), Hsinchu, Taiwan, R.O.C., in 1991, 1993, and 1998, respectively.From January 1999 to June 1999, he was a Postdoctoral Researcher with the Department of Communication Engineering, National Chiao-Tung University. From September 1999 to February 2002, he become a Research Engineer with Philips Research East Asia, Taiwan, Since February 2002, he has been with the Department of Electronic Engineering, National Taipei University of Technology, Taipei, Taiwan, where he is currently a associate Professor. His major research interests are speech recognition, speech synthesis and acoustic wireless communication system.