TING-KUEI HU

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EDUCATION

B.S. Electronics Engineering - National Chiao Tung University (GPA: 3.89/4.3)2010 - 2014

RESEARCH INTEREST

Computer Vision, Deep Learning, Mobile Computing, Embedded Deep Learning

PUBLICATION

Learning Adaptive Hidden Layers for Mobile Gesture Recognition
Ting-Kuei Hu, Yen-Yu Lin, Pi-Cheng Hsiu
AAAI Conference on Artificial Intelligence (AAAI), 2018

A Reliable Brain Computer Interface Implemented on an FPGA for a Mobile Dialing System
Chih-Wei Feng, Ting-Kuei Hu, Jui-Chung Chang, Wai-Chi Fang
IEEE International Symposium on Circuits & Systems (ISCAS), 2014

AWARD

Academy Performance Award * 2

EXPERIENCE

Research Assistant - Academia Sinica 2014-2017

Project Assistant – National Chiao Tung University 2013 - 2014

PROJECT

Learning Adaptive Hidden Layers for Mobile Gesture Recognition 2015-2017

We propose an approach based on deep neural networks (DNNs), which are characterized by the effectiveness in joint feature extraction and nonlinear classifier learning. Specifically, we introduce a new network layer, called an adaptive hidden layer (AHL), which generalizes a hidden layer in DNNs and can dynamically generate an appropriate activation map for a given input.

Oasis Exploration 2014-2016

We complete a system for providing mobile end user with a convenient user experience by performing analysis on 3G signal and recommending users to travel to a spot with enough data rate. An user-satisfactory function is proposed to characterize the wellnesses of end-users with respect to traveling distance.

Brain Computer Interface implementation 2012-2014

We demonstrates a high performance brain computer interface (BCI) that allows users to dial phone numbers. The system is based on Canonical Correlation Analysis (CCA) and Steady-State Visual Evoked Potential (SSVEP). Through six frequency bands (9Hz, 10Hz, 11Hz, 12Hz, 13 Hz, 14Hz) displayed on the screen, subjects can choose a phone number by gazing at the display interface.

SKILL

Languages: C/C++, MATLAB, python, java
Tools: TensorFlow, Theano, Keras, Android SDK

REFERENCE

Pi-Cheng Hsiu - Associate Research Fellow, Academia Sinica pchsiu@citi.sinica.edu.tw
Yen-Yu Lin - Associate Research Fellow, Academia Sinica yylin@citi.sinica.edu.tw