Ting-Hsuan Chao (Joel)

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Research Interests

- **Computer Vision**: Scalable Object Detection, Large Scale Image Classification, Scene Recognition
- **Deep Learing**: Generative Model, Model Compression and Speedup

Education

National Taiwan University *Sep. 2013 - Jul. 2015*
M.S. in Computer Science & Information Engineering
Communications and Multimedia Laboratory (CMLAB), MiRA Group
Advisor: Winston H. Hsu

National Taiwan University *Sep. 2009 - Jul. 2013*
B.S. in Electrical Engineering

Professional Experience

Appier Inc. - Machine Learning Scientist *May. 2016 - now*
- Chinese natural language understanding
- Large-scale multi-languages user topic module from Spark, AI algorithm, database to APIs
- Scalable and robust machine learning ensemble framework
- Real-time user purchase intent prediction by RNN
- Automatic advertisement bidding bot by Reinforcement Learning
- Cross screen user identification by Generative Adversarial Networks

National Taiwan University - Research Assistant *Aug. 2015 - Mar. 2016*
- Advanced research on deep learning compression and speedup

OpenHCI - Web Service *Apr. 2015 - Jul. 2015*
- Website design and maintain, registration system development
- Network infrastructure construction

National Taiwan University - Teaching Assistant *Sep. 2013 - Feb. 2014*
- CSIE Department - Seminar

Hewlett-Packard, Inc - Software Engineer Intern *Jul. 2012 - Jun. 2013*
- Develop and maintain softpaq checking tool, wireless diagnose tool, and web service APIs

Publications

- Ting-Hsuan Chao, Yen-Liang Lin, Yin-Hsi Kuo and Winston H. Hsu, "Scalable Object Detection by Filter Compression with Regularized Sparse Coding," CVPR 2015. (Full paper)
- Yu-Hsiu Chen, Ting-Hsuan Chao, Yen-Liang Lin and Winston H. Hsu, "Filter-Invariant Image Classification on Social Media Photos," ACM Multimedia 2015. (Short paper)
- Wei-Tse Sun, Ting-Hsuan Chao, Yin-Hsi Kuo and Winston H. Hsu "Photo Filter Recommendation by Category-Aware Aesthetic Learning," IEEE Transactions on Multimedia 2017. (Journal paper)

· Wen-Yu Lee, Yin-Hsi Kuo, Peng-Ju Hsieh, Wen-Feng Cheng, Ting-Hsuan Chao, Hui-Lan Hsieh, Chieh-En Tsai, Hsiao-Ching Chang, Jia-Shin Lan, Winston Hsu, "Unsupervised Latent Sub-events Discovery based on Multi-content and Human Activities Analysis for Diverse Event Summarization," ACM Multimedia 2015. (Grand Challenge)

· Chun-yen Yeh, Yu-Chuan Su, Hsin-Fu Huang, Ting-Hsuan Chao, Sebastian Agethen, Winston H. Hsu, "Low-Bitrate and Online Mobile Video Classification," ICCE 2016. (Short paper)

Academic Experience

· Reviewer for IEEE Transactions on Multimedia (TMM)

· Poster Presentation in CVPR 2015, Boston, USA

· Poster Presentation in ACM Multimedia 2015, Brisbane, Australia

Projects

Keras - Contributor
Deep Learning ◇ Tensorflow ◇ Theano ◇ Python
A high-level neural networks API, written in Python. Commit over 600+ lines, including a image preprocessing module, a locally connected layer and bug fixes. Answer 140+ issues and resolve 120+ of them.

Kaggle - National Data Science Bowl
Deep Learning ◇ Caffe ◇ CNN ◇ Computer Vision
Learn to recognize plankton by training convolutional neural networks. Rank 51^{th}(4.9%) in competition.

Kaggle - Carvana Image Masking Challenge
Deep Learning ◇ Keras ◇ Image segmentation ◇ Computer Vision
Learn to segment car from background by training fully convolutional neural netword. Blonze plate.

HackNTU - WhosDrive
Car Camera Recorder ◇ Car Number Plate Detection ◇ Android
A mobile/web application devoted to solve traffic problem by automatically detecting car plate number and reporting dangerous drivers to our database. Also, it can perform real-time notification of dangerous car's approaching.

National Taiwan University Hosipital - Swallowing Analysis
Object Tracking ◇ SVM ◇ MATLAB ◇ Computer Vision
Analyze swallowing function of patients by tracking Hyoid bone in X-ray photos.

Flora
ML ◇ OpenCV ◇ Android ◇ Computer Vision
A mobile application able to automatically recognize breed of a given flower.

ScoreMaster
Android ◇ Camera ◇ Education
An online Q&A platform for junior/senior high school students. Teachers can answer questions and earn money on it.

Technical Strengths

· Programming Language: Python, Scala, C++, JAVA, MATLAB, javascript

· Framework: Keras, PyTorch, TensorFlow, Spark, Caffe, Android, node.js