

# TING-HSUAN CHAO (JOEL)

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## RESEARCH INTERESTS

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- **Computer Vision:** Scalable Object Detection, Large Scale Image Classification, Scene Recognition
- **Machine Learning:** Convolutional Neural Network Compression, Siamese Network Learning

## EDUCATION

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**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

## EXPERIENCE

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**National Taiwan University**

*Aug. 2015 - now*

*Research Assistant*

Department of CSIE, Communications and Multimedia Laboratory

**OpenHCI - The 6<sup>th</sup> Student Organized Workshop on HCI**

*Apr. 2015 - Jul. 2015*

*Web Service*

Webpage design & maintain

Registration system development

Network infrastructure construction

**National Taiwan University**

*Sep. 2013 - Feb. 2014*

*Teaching Assistant*

Department of CSIE - Seminar

**Hewlett-Packard, Inc**

*Jul. 2012 - Jun. 2013*

*Software Engineer*

Wireless Diagnose Tool Development

Softpaq Checking Tool Development

## PUBLICATIONS

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- Ting-Hsuan Chao, Yen-Liang Lin, Yin-Hsi Kuo and Winston H. Hsu, "Scalable Object Detection by Filter Compression with Regularized Sparse Coding," Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, 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)
- 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

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- Reviewer for IEEE Transactions on Multimedia (TMM)
- Poster Presentation in CVPR 2015, Boston, USA
- Poster Presentation in ACM Multimedia 2015, Brisbane, Australia

## PROJECTS

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### WhosDrive - HackNTU

*Aug. 2015 - Aug. 2015*

*Car Camera Recorder Application*

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.

### Kaggle - National Data Science Bowl

*Dec. 2014 - Mar. 2015*

*Machine Learning algorithm development*

Learn to recognize plankton by training convolutional neural networks. Rank 51<sup>th</sup> (4.9%) in competition.

### Flora

*Jul. 2013 - Jun. 2014*

*Android App core development*

A mobile application able to automatically recognize breed of any flowers.

### National Taiwan University Hosipital - Swallowing Analysis

*Oct. 2013 - Jan. 2014*

*MATLAB application development*

Analyze swallowing function of patients by tracking bone in X-ray photos.

### ScoreMaster

*Oct. 2013 - May 2014*

*Android App development*

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

### Space Motion

*Mar. 2012 - Sep. 2012*

*Verilog programming on Altera DE2*

Award for Excellent in InnovateAsia Design Contest 2012. It is a new touchpad system designed to have 3 degrees of freedom based on FPGA system.

### Happy FACTory

*Apr. 2011 - Jun. 2011*

*Installation art*

First Place in National Taiwan University Art Festival installation art competition. Exhibited in Liberal Education Classroom Building in 2011 Spring.

## TECHNICAL STRENGTHS

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- Computer Languages: C++, Python, JAVA, MATLAB, JavaScript, HTML, PHP, Verilog
- Platform Development: Caffe, Torch7, Android, Node.js, MFC, Altera DE2, ShiVa3D