

# TING-HSUAN CHAO (JOEL)

*Email: joelthchao@gmail.com*

## EXPERIENCE

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### **Dcard - Engineering Manager, ML**

*2022/10 - present*

- Led a cross-functional team of 10+ ML, backend, and data engineers, delivering multiple high-impact projects with measurable business outcomes.
- Achieved a 30%+ increase in user duration by optimizing the post recommendation system with advanced modeling techniques and system enhancements.
- Achieved a 35%+ increase in ad CTR by shaping business models, identifying key opportunities for model improvement, and resolving performance bottlenecks.
- Doubled search volume and improved search success rate by transforming the search recommendation system from rule-based to learning-based methodologies.
- Designed a next-generation data architecture and developed easy-to-use data models, enhancing scalability, accessibility, and enabling data-driven decision-making.
- Built robust MLOps systems that streamlined ML workflows, accelerated iteration speed, and improved infrastructure stability to support growth.

### **Dcard - Senior Machine Learning Engineer**

*2020/10 - 2022/10*

- Led the development of the post recommendation system, significantly improving user experience.
- Defined and executed product and technical roadmaps to align with business objectives.
- Conducted data analytics and developed algorithms to enhance recommendation precision.
- Designed and implemented robust data pipelines to ensure reliability and efficiency in data processing.
- Optimized experiment design and A/B testing procedures, improving the accuracy and speed of decision-making processes.

### **Baidu Inc. - Senior NLP Engineer**

*2018/09 - 2020/02*

- Social network app recommendation system design
- Stamp suggestion by text intention understanding
- Japanese website recommendation system by Elasticsearch and CTR prediction
- Input method editor Emoji prediction by language modeling
- Increase neural conversation diversity by maximizing mutual information
- Research Japanese word embedding methods and leverage in subtasks to improve performance

### **Appier Inc. - Machine Learning Scientist**

*2016/05 - 2018/08*

- Large-scale multi-languages user topic module from Spark, AI algorithm, database to APIs
- Research on Chinese natural language understanding
- Scalable and robust machine learning ensemble framework
- Real-time user purchase intent prediction by RNN
- Automatic advertisement bidding bot by Reinforcement Learning
- Data augmentation by Generative Adversarial Networks for cross device user identification

### **National Taiwan University - Research Assistant**

*2015/08 - 2016/05*

- Advanced research on deep learning compression and speedup

### **Hewlett-Packard, Inc - Software Engineer Intern**

*2012/07 - 2013/06*

- Develop and maintain softpaq checking tool, wireless diagnose tool, and web service APIs

## EDUCATION

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### National Taiwan University

2013/09 - 2015/07

M.S. in Computer Science & Information Engineering  
Communications and Multimedia Laboratory (CMLAB), MiRA Group  
Advisor: Winston H. Hsu

### National Taiwan University

2009/09 - 2013/07

B.S. in Electrical Engineering

## 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," CVPR 2015. (Full paper)
- Wei-Tsung Lin, Ting-Hsuan Chao, Jian-Min Wu, Tian-Huang Su, "Predict Emoji Combination with Retrieval Strategy", ACM Multimedia 2015. (Short 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

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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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### 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<sup>th</sup>(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 network. Bronze plate.

## TECHNICAL STRENGTHS

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- Programming Language: Python, Scala, C++, JAVA, MATLAB, javascript
- Framework: Keras, TensorFlow, PyTorch, Spark, Caffe, Android, node.js