

# Meng-Jiun Chiou

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<https://coldmanck.github.io/>

## EDUCATION

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- AUG. 2017- *National University of Singapore*, Singapore  
PRESENT **Ph.D.** in Computer Science
- Supervised by Prof. Roger Zimmermann and Prof. Jiashi Feng
  - Focuses on Learning Structured Representations of Visual Scenes & broader CV/ML/DL
- SEP. 2012- *National Chiao Tung University*, Hsinchu, Taiwan  
JUN. 2016 **B.Sc.** in Electrical and Computer Engineering
- Overall GPA: 3.89/4.30 (or 3.90/4.00) & Took various computer science modules
- OCT. 2014- *The University of Tokyo*, Tokyo, Japan  
SEP. 2015 **Exchange Student** in Information and Communication Engineering
- Supervised by Prof. Toshihiko Yamasaki and Prof. Kiyoharu Aizawa
  - Worked at *Multimedia Processing Lab*, focusing on deep learning-based image classification

## PUBLICATIONS

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- **Meng-Jiun Chiou**, Henghui Ding, Hanshu Yan, Changhu Wang, Roger Zimmermann and Jiashi Feng, “Recovering the Unbiased Scene Graphs from the Biased Ones”, in *Proceedings of the 29th ACM International Conference on Multimedia (ACMMM)*, 2021, pp. 1581-1590.
  - Introduced *Dynamic Label Frequency Estimation* (DLFE) for debiasing scene graph generation (SGG). Applying DLFE to SGG methods was shown to result in new SOTA debiasing performance, specifically, +5 averaged mean recall points (24%→29%) or +21 tail recall points (17%→38%) than the previous SOTAs on the VG dataset.
- **Meng-Jiun Chiou**, Chun-Yu Liao, Li-Wei Wang, Roger Zimmermann and Jiashi Feng, “ST-HOI: A Spatial-Temporal Baseline for Human-Object Interaction Detection in Videos”, in *Proceedings of the 2021 Workshop on Intelligent Cross-Data Analysis and Retrieval (ICDAR)*, 2021, pp. 9–17.
  - Introduced a keyframe-centered, larger-scale video human-object interaction detection (VidHOID) benchmark named *VidHOI*. Proposed a strong VidHOID baseline called *ST-HOI* outperforming the 2D/3D baseline models by obtaining 74% relatively or 6.1% absolutely higher mAP (8.3% → 14.4%) on temporal-related HOIs.
- **Meng-Jiun Chiou**, Roger Zimmermann and Jiashi Feng, “Visual Relationship Detection with Visual-Linguistic Knowledge from Multimodal Representations”, *IEEE Access*, 2021, vol. 9, pp. 50441–50451.
  - Introduced a novel Transformer-based multi-modal visual relation detection (VRD) architecture named *RVL-BERT* enriched by the visual-linguistic knowledge from large-scale external datasets. RVL-BERT achieved SOTA performance on the SpatialSense dataset and competitive results on the VRD and VG datasets.
- **Meng-Jiun Chiou**, Zhenguang Liu, Yifang Yin, An-An Liu and Roger Zimmermann, “Zero-Shot Multi-View Indoor Localization via Graph Location Networks”, in *Proceedings of the 28th ACM International Conference on Multimedia (ACMMM)*, 2020, pp. 3431–3440.
  - Introduced an multi-view image-based indoor localization system named *GLN* achieving SOTA performance. Also proposed a zero-shot recognition setting which we tackled with the the side information from the *Map2Vec* location-aware embeddings. Zero-shot GLN achieves promising results, *e.g.*, 56.3% 5-meter localization error.
- Yifang Yin, **Meng-Jiun Chiou**, Zhenguang Liu, Harsh Shrivastava, Rajiv Ratn Shah and Roger Zimmermann, “Multi-Level Fusion based Class-aware Attention Model for Weakly Labeled Audio Tagging”, in *Proceedings of the 27th ACM International Conference on Multimedia (ACMMM)*, 2019, pp. 1304–1312
  - Introduced a multi-level attention-based audio tagging model making segment-level predictions with temporal modeling, followed by advanced aggregations along both time and feature domains. Experiments showed that our method outperforms existing methods and achieves SOTA audio tagging results.
- **Meng-Jiun Chiou**, Yamasaki Toshihiko and Aizawa Kiyoharu, “A Fast Table-Based Approach of Bag-of-Features for Large-Scale Image Classification”, in *Image Information and Television Engineers Annual Conference (ITE)*, 2015.
- **Meng-Jiun Chiou**, Yamasaki Toshihiko and Aizawa Kiyoharu, “A Fast Method of Visual Words Assignment of Bag-of-Features for Object Recognition”, in *The 18th Meeting on Image Recognition and Understanding*, 2015.

## SELECTED PROJECT

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- The Light* Hackathon Project **Meng-Jiun Chiou**, Xiao Ma, Yaqi Xie and Ziwei Xu, at the hackathon
- The Light* navigates blind people to move around smoothly in real time using *MobileNet* for object segmentation. It won 2<sup>nd</sup> prize at iNTUition Hackathon 2017.
- Project page: <https://devpost.com/software/thelight>

## SERVICES AND MEMBERSHIPS

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- **Program Committee**, *NeurIPS'21 Workshop on Distribution Shifts in Real-World Applications*, *CVPR'18 Workshop on Visual Understanding of Humans in Crowd Scene*, *BigMM 2020 Graduate Student Consortium*
- **Reviewer**, *ACMMM* ('21/'20), *IEEE TMM* ('21), *IEEE TIP* ('20), *ACM TOMM* ('20), *Springer MMSJ* ('19), NUS MSCS Admission ('21, '20)
- **Teaching Assistant**, Big-Data Analytics Technology (NUS, 2021), Computer Vision and Pattern Recognition (NUS, 2018-20), Data Structures and Algorithms (NUS, 2017-18), Special Friday Lecture for High School Students (UTokyo, 2014-15)

## EXPERIENCE

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- JUN. 2020- **Research Intern** at *Asus Intelligent Cloud Services (AICS)*, Singapore  
SEP. 2020 I developed a strong baseline for video-based human-object interaction detection. A paper wrapping up my work has been published to ICDAR'21 (an ACM-ICMR'21 workshop).
- DEC. 2015- **Research Assistant** at *Academia Sinica*, Taipei, Taiwan  
APR. 2016 I worked on image segmentation with Dr. Yu-chiang Frank Wang at *Multimedia and Machine Learning Lab*.
- JUL. 2013- **Software Dev. Intern (Microsoft Student Partners)** at *Microsoft*, Taipei, Taiwan  
JUN. 2014 I gave engineering talks and developed Windows Apps, *e.g.*, *NHK Reader* (7K+ downloads).  
• *NHK Reader* product page: <https://www.microsoft.com/en-us/p/nhk-reader/9wzdnrcrdqpd>

## SKILLS

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- Deep Learning Framework: Proficient in *PyTorch*
- Programming: Proficient in *Python*; Experienced in *C++*, *Matlab* and *Java*
- Languages: Mandarin Chinese (native), English (fluent) and Japanese (fluent; JLPT N1)

## AWARDS AND SCHOLARSHIPS

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- OCT. 2017 **2<sup>nd</sup> Place**, *iNTUition Hackathon 2017*  
• A 24-hour hackathon held at *Nanyang Technological University*, Singapore
- AUG. 2017 **NUS Research Scholarship**, *National University of Singapore*  
• Including full tuition waiver and monthly stipend.
- OCT. 2015 **Helm Technology Scholarship**, *Helm Technology Inc.*  
• Awarded to students with superb overall GPA
- OCT. 2014 **Student Exchange Support Program**, *Japan Student Services Organization*  
• Chosen by *The University of Tokyo*
- OCT. 2014 **Short Term Exchange Scholarship**, *National Chiao Tung University*  
• Awarded to exchange students with the top 20% overall GPA
- MAY. 2014 **Xiao Yuan-Long Scholarship**, *NCTU Electrical and Computer Engineering*  
• Awarded to students with superb overall GPA

## EXTRACURRICULAR ACTIVITIES

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- JUN. 2013- **Vice President** at *Chien-Kuo and Taipei First Girls' High School Alumni Association*,  
MAY. 2014 *National Chiao Tung University*  
I took on leadership roles by organizing a variety of events.