Kuan-Hao Huang

khhuang@cs.ucla.edu ◇ http://khhuang.net
Engineering VI 368, 404 Westwood Plaza, Los Angeles, CA 90095, USA

Education

University of California Los Angeles, CA, USA — Sep. 2018 - Present
Ph.D. in Computer Science
Advisor: Prof. Kai-Wei Chang, GPA: 4.0/4.0

National Taiwan University, Taipei, Taiwan — Sep. 2014 - Jun. 2016
M.S. in Computer Science and Information Engineering
Advisor: Prof. Hsuan-Tien Lin, GPA: 4.11/4.3

National Taiwan University, Taipei, Taiwan — Sep. 2010 - Jun. 2014
B.S. in Computer Science and Information Engineering
GPA: 4.10/4.3 (major), 3.96/4.3 (overall)

Research Interests

Machine Learning, Natural Language Processing

Research Experience

University of California Los Angeles - NLP Group, CA, USA — Sep. 2018 - Present
Graduate Student Researcher, Advisor: Prof. Kai-Wei Chang

- Study group bias from word embedding
- Research in robustness of word embedding and sentence embedding

National Taiwan University - MSLab, Taipei, Taiwan — Sep. 2017 - Jul. 2018
Research Assistant, Advisor: Prof. Shou-De Lin

- Implemented and compared a wide variety of deep active learning algorithms

National Taiwan University - CLLab, Taipei, Taiwan — Jun. 2012 - Jun. 2016
Research Assistant, Advisor: Prof. Hsuan-Tien Lin

- Proposed a series of cost-sensitive multi-label classification algorithms that can approximately optimize any evaluation function
- Developed an innovative cost-sensitive multi-class active learning that can select informative instances with regard to any target cost matrix
- Designed a novel contextual bandit algorithm to deal with delayed piled-rewards

Conference Publications

[1] Yao-Yuan Yang, **Kuan-Hao Huang**, Chih-Wei Chang, and Hsuan-Tien Lin. Cost-sensitive reference pair encoding for multi-label learning. In *Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2018.

[2] **Kuan-Hao Huang** and Hsuan-Tien Lin. A novel uncertainty sampling algorithm for cost-sensitive multiclass active learning. In *Proceedings of the IEEE International Conference on Data Mining (ICDM)*, 2016.

[3] **Kuan-Hao Huang** and Hsuan-Tien Lin. Linear upper confidence bound algorithm for contextual bandit problem with piled rewards. In *Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2016.

Journal Publications

[4] Hong-Min Chu, **Kuan-Hao Huang**, and Hsuan-Tien Lin. Dynamic principal projection for cost-sensitive online multi-label classification. *Machine Learning*, 2019. (ECML PKDD 2019 Journal Track).

[5] **Kuan-Hao Huang** and Hsuan-Tien Lin. Cost-sensitive label embedding for multi-label classification. *Machine Learning*, 2017. (ECML PKDD 2017 Journal Track).

[6] Chun-Liang Li, Yu-Chuan Su, Ting-Wei Lin, Cheng-Hao Tsai, Wei-Cheng Chang, **Kuan-Hao Huang**, Tzu-Ming Kuo, Shan-Wei Lin, Young-San Lin, Yu-Chen Lu, Chun-Pai Yang, Cheng-Xia Chang, Wei-Sheng Chin, Yu-Chin Juan, Hsiao-Yu Tung, Jui-Pin Wang, Cheng-Kuang Wei, Felix Wu, Tu-Chun Yin, Tong Yu, Yong Zhuang, Shou-De Lin, Hsuan-Tien Lin, and Chih-Jen Lin. Combination of feature engineering and ranking models for paper-author identification in KDD Cup 2013. *Journal of Machine Learning Research*, 2015. (Extended first-place winner report of KDD Cup 2013 track 1).

[7] Wei-Sheng Chin, Yong Zhuang, Yu-Chin Juan, Felix Wu, Hsiao-Yu Tung, Tong Yu, Jui-Pin Wang, Cheng-Xia Chang, Chun-Pai Yang, Wei-Cheng Chang, **Kuan-Hao Huang**, Tzu-Ming Kuo, Shan-Wei Lin, Young-San Lin, Yu-Chen Lu, Yu-Chuan Su, Cheng-Kuang Wei, Tu-Chun Yin, Chun-Liang Li, Ting-Wei Lin, Cheng-Hao Tsai, Shou-De Lin, Hsuan-Tien Lin, and Chih-Jen Lin. Effective string processing and matching for author disambiguation. *Journal of Machine Learning Research*, 2014. (Extended first-place winner report of KDD Cup 2013 track 2).

Preprints

[8] Sean T. Yang, **Kuan-Hao Huang**, and Bill Howe. Multidec: Multi-modal clustering of image-caption pairs. *Preprint arXiv:1901.01860*, 2019.

Selected Awards

Thesis Honorable Mention Award, Taiwanese Association for Artificial Intelligence 2016
Fourth Place, KDD Cup 2015 2015
Second Place, ICASSP Signal Processing Cup 2014
First Place, Track 1 of KDD Cup 2013 2013
First Place, Track 2 of KDD Cup 2013 2013
Presidential Award, National Taiwan University 2011

Teaching Experience

National Taiwan University, Taipei, Taiwan Fall 2013, Fall 2014, Fall 2015
Teaching Assistant, CSIE 5043: Machine Learning

National Taiwan University, Taipei, Taiwan Spring 2013, Spring 2015
Teaching Assistant, CSIE 1212: Data Structure and Algorithm

Work Experience

MixerBox, Taipei, Taiwan Mar. 2016 - Jun. 2016
Software Engineering Intern

– Developed an intelligent system that can efficiently find popular singers in different countries based on recent user search strings

Appier, Taipei, Taiwan Apr. 2015 - Jan. 2016
Software Engineering Intern

– Applied bandit algorithms to decide which ads should be displayed to improve click-through rate
– Designed a neural-network-based system that can systematically select attractive images of products for advertisement

MediaTek, Hsinchu, Taiwan Jul. 2014 - Aug. 2014

Software Engineering Intern

– Built a model that can dynamically determine the best transmitting parameters of 4G LTE system for the current environment and enhance transmission quality