Kuan-Hao Huang

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Education

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

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

- Adversarial examples for language models
- Adversarial examples for graphical data

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

- Adversarial examples and defense
- Deep active learning

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

- Cost-sensitive learning
- Active learning
- Multi-class and multi-label classification
- Contextual bandit problem

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).

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

- Built a system that can automatically find popular singers based on recent search strings
- Improved the quality of auto-complete searching system by data cleaning

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

- Established a system that can automatically select attractive images of products for advertisement
- Used bandit algorithms to determine which ads should be displayed to improve *click-through rate*

MediaTek, Hsinchu, Taiwan Jul. 2014 - Aug. 2014
Software Engineering Intern

- Trained an online multi-class classifier that can dynamically decide the best transmitting parameters of 4G LTE system to enhance 4% transmission quality