Xiaoying Zhang

Ph.D. Candidate, Expecting to Graduate in Mid-2019

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Education

2015–current **Ph.D., Computer Science and Engineering**, *The Chinese University of Hong Kong*.
- Research interests: Large-scale user behavior modeling, covering recommender system, fraud detection;
- Advisor: Prof. John C.S. Lui

2011–2015 **B.E., Computer Science and Technology**, *University of Science and Technology of China*.
- Rank: 4/91

Experience

2018.05–2018.09 **Research Intern**, *ByteDance AILab, Beijing*.
- Supervisor: Dr. Hang Li.
- Research on efficient exploration in contextual bandits via high-level feedback.
- Using users' interaction data on Toutiao, one of biggest news recommendation platforms in China, designed and conducted experiments to analyze recommendation diversity, and suggested several directions to improve.

2014.12–2015.06 **Research Intern**, *Microsoft Research Asia*.
- Supervisor: Dr. Yunbo Cao
- Developed a platform to classify emails with travel intent, which are rare, from users' daily email exchanges.

2014.09–2014.12 **Research Intern**, *Microsoft Research Asia*.
- Supervisor: Dr. Bin Gao
- Improved word embeddings generated by RC-NET with knowledge graph.

2014.07–2014.09 **Research Intern**, *University of Birmingham, England*.
- Supervisor: Professor Xin Yao
- Software effort estimation via decision tree ensembles.

Research Projects

Recsys'17 IJCAI'18 **Modeling the Assimilation-Contrast Effects in Online Product Rating Systems: Debiasing and Recommendations (Best Paper Award of Recsys'17)**
- Previous experimental studies showed that the disclosed historical ratings would distort subsequent ratings. However, none of existing work clearly characterizes the historical influence.
- By analyzing real ratings from Amazon and Tripadvisor, we first revealed the assimilation and contrast effects in user's rating behavior caused by historical ratings.
- Developed a model to debias the historical distortion.
- Showed the benefits of the model in better recommendation and wiser consumer decision making.

ICNP '18 **Sybil Detection in Social-Activity Networks: Modeling, Algorithms and Evaluations.**
- Recent studies showed that an important assumption, on which previous graph-based sybil (fake account) detection methods are built up, are unrealistic. Moreover, breaking down this assumption leads to low detection accuracy.
- Explore users' activities and bring out a new realistic attack model (The Social-Activity Attack Model).
- Designed an efficient algorithm under new attack model to detect sybils.
- Provided theoretical analysis and extensive experimental evaluation.

Under Preparation **Efficient Exploration via High-level Feedback in News Recommendations**

- Conventional contextual bandit algorithms may converge slowly with even moderately large feature spaces.
- Design a bandit algorithm to explore high-level feedback on suparms to reduce the amount of exploration required.
- Design the optimal suparm selection strategy & provide the performance guarantee.

Publications

Conference

[1] **Xiaoying Zhang**, Junzhou Zhao, and John Lui. Modeling the assimilation-contrast effects in online product rating systems: Debiasing and recommendations. In *Proceedings of the Eleventh ACM Conference on Recommender Systems*, pages 98–106. ACM, 2017 **(Best Paper Award)**.

[2] **Xiaoying Zhang**, Hong Xie, Junzhou Zhao, and John Lui. Modeling the assimilation-contrast effects in online product rating systems: Debiasing and recommendations. In *IJCAI Sister Conference (Best Paper Track)*, 2018.

[3] **Xiaoying Zhang**, Hong Xie, and John Lui. Sybil detection in social-activity networks: Modeling, algorithms and evaluations. In *IEEE 26th International Conference on Network Protocols (ICNP)*. IEEE, 2018.

Honors & Awards

Scholarships CUHK Postgraduate Studentship, 2015 – 2019

IBM Scholarship, 2014

Xing Ye Scholarship at USTC, 2013

USTC Outstanding Student Scholarship (first class), 2012

Others Student Travel Grants for ICNP 2018

Skills

Languages Use C/C++ in most projects, familiar with Python, MatLab and Spark

Others Native in Chinese, professional working proficiency in English