

Xiangnan He

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RESEARCH INTERESTS	Recommender Systems, Information Retrieval, Natural Language Processing, Machine Learning, Multimedia, Big Data Analytics, Artificial Intelligence
EDUCATION	National University of Singapore 2011 – 2016 Ph.D. in Computer Science, GPA 4.69 / 5.0 Advisor: Prof. Kan Min-Yen
	East China Normal University 2007 – 2011 BSc. in Software Engineering, GPA 3.65 / 4.0 (Rank: 2nd / 230) Advisor: Prof. Zhou Aoying and Prof. Jin Cheqing.
WORKING EXPERIENCE	National University of Singapore , Research Fellow Apr 2016 – Present Leading a team and mentoring Ph.D. students under NUS-Tsinghua Extreme Search Centre (NExT). Advisor: Prof. Chua Tat-Seng
	Google Research (Mountain View, US), Intern Jun 2015 – Sep 2015 Developing methods for large-scale context-aware recommender systems. Advisor: Dr. Steffen Rendle and Dr. Bhargav Kanagal
TEACHING EXPERIENCE	I will give the tutorial Deep Learning for Matching in Search and Recommendation together with Dr. Li Hang and Dr. Xu Jun in WWW 2018. I have served as a Teaching Assistant at NUS for the following modules: CS1020 Data Structure and Algorithms Semester 1 2013/2014 Teaching tutorials, designing and grading assignments. CS3245 Information Retrieval Semester 2 2013/2014 Grading and helping on lab projects. CS5228 Knowledge Discovery and Data Mining Semester 1 2014/2015 Teaching tutorials, designing course projects, and grading assignments.
PROFESSIONAL SERVICES	Workshop Co-chair CIKM 2017 Workshop on Social Media Analytics for Smart Cities. Conference PC Member SIGIR 2018, WWW 2018, ACL 2018, WSDM 2018, AAAI 2018, IJCAI 2018, PAKDD 2018, SIGIR 2017, MM 2017, CIKM 2017, CCL 2017, SIGIR 2016, WWW 2016, EMNLP 2016. Invited Journal Reviewer TOIS, TKDE, TKDD, TMM, IEEE Access, WWWJ, MMSJ, TIS, Neurocomputing, etc.
SELECTED AWARDS	ACM SIGIR Best Paper Honorable Mention July 2016 ACM SIGIR Student Travel Grant Oct 2015 Research Achievement Award (aka the Dean's Graduate Award) Oct 2014 IBM Chinese Excellent Student Scholarship Oct 2010 National Scholarship (top scholarship for Chinese undergraduates) Oct 2010 Shanghai Innovation Fund (as the team leader) May 2010
FIRST-AUTHOR PUBLICATIONS	1. Xiangnan He , Zhankui He, Jingkuan Song, Zhenguang Liu, Yu-Gang Jiang, and Tat-Seng Chua (2018). <i>NAIS: Neural Attentive Item Similarity Model for Recommendation</i> . IEEE Transactions on Knowledge and Data Engineering (under reviewing).

2. **Xiangnan He**, Jinhui Tang, Xiaoyu Du, Richang Hong, Tongwei Ren, and Tat-Seng Chua (2018). *Fast Matrix Factorization with Weighted Missing Data*. IEEE Transactions on Knowledge and Data Engineering (under reviewing).
3. **Xiangnan He** and Tat-Seng Chua (2017). *Neural Factorization Machines for Sparse Predictive Analytics*. In Proceedings of the 40th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2017), pp. 355-364.
4. **Xiangnan He**, Lizi Liao, Hanwang Zhang, Liqiang Nie, Xia Hu, and Tat-Seng Chua (2017). *Neural Collaborative Filtering*. In Proceedings of the 26th International Conference on World Wide Web (WWW 2017), pp. 173-182.
5. **Xiangnan He**, Ming Gao, Min-Yen Kan, and Dingxian Wang (2017). *BiRank: Towards Ranking on Bipartite Graphs*. IEEE Transactions on Knowledge and Data Engineering (TKDE), Vol 29:1, pp. 57-71.
6. **Xiangnan He**, Hanwang Zhang, Min-Yen Kan, and Tat-Seng Chua (2016). *Fast Matrix Factorization for Online Recommendation with Implicit Feedback*. In Proceedings of the 39th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2016), pp. 549-558.
7. **Xiangnan He**, Tao Chen, Min-Yen Kan, and Xiao Chen (2015). *TriRank: Review-aware Explainable Recommendation by Modeling Aspects*. In Proceedings of the 24th ACM International on Conference on Information and Knowledge Management (CIKM 2015), pp. 1661-1670.
8. **Xiangnan He**, Ming Gao, Min-Yen Kan, Yiqun Liu, and Kazunari Sugiyama (2014). *Predicting the Popularity of Web 2.0 Items Based on User Comments*. In Proceedings of the 37th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2014), pp. 233-243.
9. **Xiangnan He**, Min-Yen Kan, Peichu Xie, and Xiao Chen (2014). *Comment-based Multi-View Clustering of Web 2.0 Items*. In Proceedings of the 23rd International Conference on World Wide Web (WWW 2014), pp. 771-782.

MENTORED
STUDENT
PUBLICATIONS

*I list the publications of Ph.D. students and interns (indicated by *) mentored by me.*

10. Lizi Liao*, **Xiangnan He**, Hanwang Zhang, and Dingxian Wang (2018). *Attributed Social Network Embedding*. IEEE Transactions on Knowledge and Data Engineering (under reviewing).
11. Xiang Wang*, **Xiangnan He**, Fuli Feng, Liqiang Nie, and Tat-Seng Chua (2018). *TEM: Tree-enhanced Embedding Model for Explainable Recommendation*. In Proceedings of the 27th International Conference on World Wide Web (WWW 2018), to appear.
12. Fuli Feng*, **Xiangnan He**, Yiqun Liu, Liqiang Nie, and Tat-Seng Chua (2018). *Learning on Partial-Order Hypergraphs*. In Proceedings of the 27th International Conference on World Wide Web (WWW 2018), to appear.
13. Wenhui Yu*, Huidi Zhang, **Xiangnan He**, Xu Chen, Li Xiong, and Zheng Qin (2018). *Aesthetic-based Clothing Recommendation*. In Proceedings of the 27th International Conference on World Wide Web (WWW 2018), to appear.
14. Jingyuan Chen*, **Xiangnan He**, Xueming Song, Hanwang Zhang, Liqiang Nie, and Tat-Seng Chua (2018). *Venue Prediction for Social Images by Exploiting Rich Temporal Patterns in LBSNs*. In Proceedings of the 24th International Conference on Multimedia Modeling (MMM 2018), to appear.
15. Xiang Wang*, **Xiangnan He**, Liqiang Nie, and Tat-Seng Chua (2017). *Item Silk Road: Recommending Items from Information Domains to Social Users*. In Proceedings of the 40th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2017), pp. 185-194.
16. Francesco Gelli*, **Xiangnan He**, Tao Chen, and Tat-Seng Chua (2017). *How Personality Affects our Likes: Towards a Better Understanding of Actionable Images*. In Proceedings of the 2017 ACM on Multimedia Conference (MM 2017), pp. 1828-1837.
17. Lizi Liao*, **Xiangnan He**, Zhaochun Ren, Liqiang Nie, Huan Xu, and Tat-Seng Chua (2017). *Representativeness-aware Aspect Analysis for Brand Monitoring in Social Media*. In Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI 2017), pp. 310-316.

18. Da Cao*, **Xiangnan He**, Liqiang Nie, Xiaochi Wei, Xia Hu, Shunxiang Wu, and Tat-Seng Chua (2017). *Cross-Platform App Recommendation by Jointly Modeling Ratings and Texts*. ACM Transactions on Information Systems (TOIS), Vol 35:4, pp. 1–27.
19. Da Cao*, Liqiang Nie, **Xiangnan He**, Xiaochi Wei, Shuizhi Zhu, Shunxiang Wu, Tat-Seng Chua (2017). *Embedding Factorization Models for Jointly Recommending User Generated Lists and Their Contained Items*. In Proceedings of the 40th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2017), pp. 585-594.
20. Jingyuan Chen*, Hanwang Zhang, **Xiangnan He**, Liqiang Nie, Wei Liu, and Tat-Seng Chua (2017). *Attentive Collaborative Filtering: Multimedia Recommendation with Component- and Item-Level Attention*. In Proceedings of the 40th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2017), pp. 335-344.
21. Jun Xiao, Hao Ye*, **Xiangnan He**, Hanwang Zhang, Fei Wu, and Tat-Seng Chua (2017). *Attentional Factorization Machines: Learning the Weight of Feature Interactions via Attention Networks*. In Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI 2017), pp. 3119-3125.
22. Da Cao*, Liqiang Nie, **Xiangnan He**, Xiaochi Wei, Jialie Shen, Shunxiang Wu, and Tat-Seng Chua (2017). *Version-sensitive mobile App recommendation*. Information Science, Vol 381:C, pp. 161-175.

SELECTED
CO-AUTHOR
PUBLICATIONS

I list the selected publications co-authored by me.

23. Dongxiang Zhang, Long Guo, **Xiangnan He**, Jie Shao, Sai Wu, and Heng Tao Shen (2018). *A Graph-Theoretic Fusion Framework for Unsupervised Entity Resolution*. In Proceedings of the 34th IEEE International Conference on Data Engineering (ICDE 2018), to appear.
24. Zan Gao, Yu Wang, **Xiangnan He**, and Hua Huang (2018). *Group-pair Convolutional Neural Networks for Multi-view based 3D Object Retrieval*. In Proceedings of the 22th AAAI Conference on Artificial Intelligence (AAAI 2018), to appear.
25. Immanuel Bayer, **Xiangnan He**, Bhargav Kanagal, and Steffen Rendle (2017). *A Generic Coordinate Descent Framework for Learning from Implicit Feedback*. In Proceedings of the 26th International Conference on World Wide Web (WWW 2017), pp. 1341-1350.
26. Lei Zhu, Zi Huang, Xiaobai Liu, **Xiangnan He**, Jingkuan Song, and Xiaofang Zhou (2017). *Discrete Multi-modal Hashing with Canonical Views for Robust Mobile Landmark Search*. IEEE Transactions on Multimedia (TMM), Vol 19:9, pp. 2066-2079.
27. Liqiang Nie, Xiang Wang, Jianglong Zhang, **Xiangnan He**, Hanwang Zhang, Richang Hong, and Qi Tian (2017). *Enhancing Micro-video Understanding by Harnessing External Sounds*. In Proceedings of the 2017 ACM on Multimedia Conference (MM 2017), pp. 1192-1200.
28. Zhenguang Liu, Li Cheng, Anan Liu, Luming Zhang, **Xiangnan He**, and Roger Zimmermann (2017). *Multiview and Multimodal Pervasive Indoor Localization*. In Proceedings of the 2017 ACM on Multimedia Conference (MM 2017), pp. 109-117.
29. Dejing Xu, Zhou Zhao, Jun Xiao, Fei Wu, Hanwang Zhang, **Xiangnan He**, and Yueting Zhuang (2017). *Video Question Answering via Gradually Refined Attention over Appearance and Motion*. In Proceedings of the 2017 ACM on Multimedia Conference (MM 2017), pp. 1645-1653.
30. Wenqiang Lei, Xuancong Wang, Meichun Liu, Ilija Ilievski, **Xiangnan He**, and Min-Yen Kan (2017). *SWIM: A Simple Word Interaction Model for Implicit Discourse Relation Recognition*. In Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI 2017), pp. 4026-4032.
31. Hanwang Zhang, Fumin Shen, Wei Liu, **Xiangnan He**, Huanbo Luan, and Tat-Seng Chua (2016). *Discrete Collaborative Filtering*. In Proceedings of the 39th International ACM SIGIR Conference on Research & Development in Information Retrieval (SIGIR 2016), pp. 325-334.
32. Tao Chen, **Xiangnan He**, and Min-Yen Kan (2016). *Context-aware Image Tweets Modelling and Recommendation*. In Proceedings of the 2016 ACM on Multimedia Conference (MM 2016), pp. 1018-1027.
33. Jianglong Zhang, Liqiang Nie, Xiang Wang, **Xiangnan He**, Xianglin Huang, and Tat-Seng Chua (2016). *Shorter-is-Better: Venue Category Estimation from Micro-Video*. In Proceedings of the 2016 ACM Conference on Multimedia Conference (MM 2016), pp. 1415-1424.

34. Tao Chen, Hany Salaheldeen, **Xiangnan He**, Min-Yen Kan, and Dongyuan Lu (2015). *VELDA: Relating an Image Tweets Text and Images*. In Proceedings of the 27th AAAI Conference on Artificial Intelligence (AAAI 2015), pp. 30-37.
35. Yiping Jin, Min-Yen Kan, Jun-Ping Ng, and **Xiangnan He** (2013). *Mining Scientific Terms and their Definitions: A Study of the ACL Anthology*. In Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing (EMNLP 2013), pp. 780-790.

INVITED TALKS

Deep Learning for Recommendation

- Tianjin University, China, Dec 2017.

Neural Factorization Machines for Sparse Predictive Analytics

- Hefei University of Technology, China, Sep 2017.

- Linksure Inc., Singapore, Jun 2017.

Neural Collaborative Filtering

- Shandong University, China, May 2017.

Recent Advance on Recommendation Methods for Implicit Feedback

- Tsinghua University, China, Apr 2017.

- Renmin University, China, Apr 2017.

- Chinese Academy of Sciences, China, Apr 2017.

Collaborative Filtering for Implicit Feedback

- Tsinghua University, China, Dec 2016.

- Zhejiang University, China, Dec 2016.

- Hefei University of Technology, China, Dec 2016.

REFEREES

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