

CHAO ZHANG

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🎓 EDUCATION

University of Illinois at Urbana-Champaign, Champaign, Illinois, USA 2013.08 – Present

Ph.D. Candidate in Computer Science

Advisor: Prof. Jiawei Han

Thesis: Space and Time-Coupled Social Media Analysis

Zhejiang University, Hangzhou, China 2010 – 2013

M.S. in Computer Science

Advisors: Prof. Gang Chen, Prof. Lidan Shou, and Prof. Ke Chen

Thesis: Evaluating Geo-Social Influence in Location-Based Social Networks

Zhejiang University, Hangzhou, China 2006 – 2010

B.S. in Computer Science

Outstanding Graduate of Zhejiang University

Graduate of Chu Kochen Honors College

♥ RESEARCH INTERESTS

Data mining, machine learning, social media analysis, spatiotemporal data mining

🐾 RESEARCH EXPERIENCE

Research Assistant, Data Mining Group, UIUC, Champaign, IL 2013–Now

Visiting Researcher, U.S. Army Research Lab, Adelphi, MD 2017.04 – 05

Research Scientist Intern, Feed Ranking Team, Facebook Inc., Menlo Park, CA 2016.05 – 08

Research Intern, Technology Strategy Group, Microsoft Research, Beijing, China 2014.05 – 09

Research Intern, Database Group, National University of Singapore, Singapore 2013.03 – 06

Research Assistant, Database Group, Zhejiang University, Hangzhou, China 2010 – 2013

Research Intern, NetEase Research Center, Hangzhou, China 2010

🔄 TEACHING EXPERIENCE

Teaching Assistant, CS512: Advanced Data Mining, UIUC 2015 Fall

Teaching Assistant, Pattern Discovery in Data Mining, Coursera 2016 Spring

Teaching Assistant, Cluster Analysis in Data Mining, Coursera 2016 Fall

Teaching Assistant, CS412: Introduction to Data Mining, Coursera 2016 Fall

📖 PUBLICATIONS

Conference Papers

1. **Chao Zhang**, Liyuan Liu, Dongming Lei, Quan Yuan, Honglei Zhuang, Tim Hanratty, and Jiawei Han, “TrioVecEvent: Embedding-Based Online Local Event Detection in Geo-Tagged Tweet Streams”, To appear in Proc. of the 23rd ACM SIGKDD Conf. on Knowledge Discovery and Pattern Mining (KDD 2017).
2. Carl Yang, Lanxiao Bai, **Chao Zhang**, Quan Yuan and Jiawei Han, “Bridging Collaborative Filtering and Semi-Supervised Learning: A Neural Approach for POI Recommendation”, To appear in Proc. of the 23rd ACM SIGKDD Conf. on Knowledge Discovery and Pattern Mining (KDD 2017).
3. **Chao Zhang**, Keyang Zhang, Quan Yuan, Luming Zhang, Tim Hanratty, and Jiawei Han, “ReAct: Online Multimodal Embedding for Recency-Aware Spatiotemporal Activity Modeling”, To appear in Proc. of the 40th Int. ACM SIGIR Conf. (SIGIR 2017).

4. **Chao Zhang**, Keyang Zhang, Quan Yuan, Haoruo Peng, Yu Zheng, Tim Hanratty, Shaowen Wang and Jiawei Han. “Regions, Periods, Activities: Uncovering Urban Dynamics via Cross-Modal Representation Learning”, The 26th Int. World Web Conf. (WWW 2017).
5. **Chao Zhang**, Quan Yuan, and Jiawei Han. “Bringing Semantics to Spatiotemporal Data Mining: Challenges, Methods, and Applications”, To appear in the 33rd IEEE Intl. Conf. on Data Engineering (ICDE 2017), (Tutorial).
6. Quan Yuan, Wei Zhang, **Chao Zhang**, Xinhe Geng, Gao Cong, and Jiawei Han. “PRED: Periodic Region Detection for Mobility Modeling of Social Media Users”, Proc. of the 10nd ACM Intl. Conf. on Web Search and Data Mining (WSDM 2017).
7. Di Yao, **Chao Zhang**, Zhihua Zhu, Jianhui Huang, and Jingping Bi. “Trajectory Clustering via Deep Representation Learning”, To appear in the 30th Intl. Joint Conf. on Neural Networks (IJCNN 2017).
8. **Chao Zhang**, Keyang Zhang, Quan Yuan, Luming Zhang, Tim Hanratty, and Jiawei Han, “GMove: Group-Level Mobility Modeling Using Geo-Tagged Social Media”, Proc. of the 22nd ACM SIGKDD Conf. on Knowledge Discovery and Pattern Mining (KDD 2016).
9. **Chao Zhang**, Guangyu Zhou, Quan Yuan, Honglei Zhuang, Yu Zheng, Lance Kaplan, Shaowen Wang, and Jiawei Han, “GeoBurst: Real-time Local Event Detection in Geo-tagged Tweet Stream”, Proc. of the 39th Int. ACM SIGIR Conf. (SIGIR 2016).
10. **Chao Zhang**, Yu Zheng, Xiuli Ma, and Jiawei Han, “Assembler: Efficient Discovery of Spatial Co-evolving Patterns in Massive Geo-sensory Data”, Proc. of the 21st ACM SIGKDD Conf. on Knowledge Discovery and Pattern Mining (KDD 2015).
11. **Chao Zhang**, Shan Jiang, Yucheng Chen, Yidan Sun, and Jiawei Han, “Fast Inbound Top-K Query for Random Walk with Restart”, Proc. of 2015 European Conf. on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD 2015). (**Best Student Paper Runner-up**)
12. Wei Feng, **Chao Zhang**, Wei Zhang, Jiawei Han, Jianyong Wang, Charu Aggarwal, and Jianbin Huang, “StreamCube: Hierarchical Spatio-temporal Hashtag Clustering for Event Exploration over the Twitter Stream”, Proc. of the 31st IEEE Int. Conf. on Data Engineering (ICDE 2015).
13. **Chao Zhang**, Jiawei Han, Lidan Shou, Jiajun Lu, and Thomas La Porta, “Splitter: Mining Fine-Grained Sequential Patterns in Semantic Trajectories”, Proc. of the 40th Int. Conf. on Very Large Data Bases (VLDB 2014).
14. Luming Zhang, Yue Gao, **Chao Zhang**, Hanwang Zhang, Qi Tian, and Roger Zimmermann, “Perception-Guided Multimodal Feature Fusion for Photo Aesthetics Assessment”, Proc. of the 22nd ACM Multimedia Int. Conf. (MM 2014).
15. Wei Kang, Anthony K. H. Tung, Wei Chen, Xinyu Li, Qiyue Song, **Chao Zhang**, Feng Zhao, and Xiajuan Zhou, “Trendspedia: An Internet Observatory for Analyzing and Visualizing the Evolving Web”, Proc. of the 30th IEEE Int. Conf. on Data Engineering (ICDE 2014).
16. **Chao Zhang**, Lidan Shou, Ke Chen, Gang Chen, and Yijun Bei, “Evaluating Geo-Social Influence in Location-Based Social Networks”, Proc. of the 21st ACM Int. Conf. on Information and Knowledge Management (CIKM 2012).
17. **Chao Zhang**, Lidan Shou, Ke Chen, and Gang Chen, “See-To-Retrieve: Efficient Processing of Spatio-Visual Keyword Queries”, Proc. of the 35th Annual Int. ACM SIGIR Conf. (SIGIR 2012).
18. Lidan Shou, Ke Chen, Gang Chen, **Chao Zhang**, Yi Ma, and Xian Zhang, “What-You-Retrieve-Is-What-You-See: A Preliminary Cyber-Physical Search Engine”, Proc. of the 34th Annual Int. ACM SIGIR Conf. (SIGIR 2011).

Journal Papers & Book Chapters

19. **Chao Zhang**, Dongming Lei, Quan Yuan, Honglei Zhuang, Lance Kaplan, Shaowen Wang, and Jiawei Han, “GeoBurst+: Effective and Real-Time Local Event Detection in Geo-Tagged Tweet Streams”, ACM Transactions on Intelligent Systems and Technology (to appear).
20. Quan Yuan, **Chao Zhang**, Jiawei Han, “A Survey on Spatiotemporal and Semantic Data Mining”, Trends in Spatial Analysis and Modelling, Springer, 2017 (to appear).
21. **Chao Zhang**, “Geographical Data Mining”, International Encyclopedia of Geography: People, the Earth, Environment and Technology, Wiley, 2017.
22. Jingsong Zhang, Yinglin Wang, **Chao Zhang**, and Yongyong Shi, “Mining Contiguous Sequential Generators in Biological Sequences”, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 13(5): 855–867, 2016.

23. Richang Hong, Luming Zhang, **Chao Zhang**, and Roger Zimmermann “Flickr Circles: Aesthetic Tendency Discovery by Multi-view Regularized Topic Modeling”, *Transactions on Multimedia (TMM)*, 18(8): 1555-1567, 2016.
24. Luming Zhang, Peiguang Jing, Yuting Su, **Chao Zhang**, and Ling Shao “SnapVideo: Personalized Video Generation for a Sightseeing Trip”, *IEEE Transactions on Cybernetics*, 2016.
25. Lidan Shou, Xuan Shang, Ke Chen, Gang Chen, and **Chao Zhang**, “Supporting Pattern-Preserving Anonymization for Time-Series Data”, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2013:25(4).

Y HONORS AND AWARDS

ACM SIGKDD Student Travel Award	2015, 2016
ECML/PKDD Best Student Paper Runner-up Award	2015
Microsoft Star of Tomorrow Excellence Award	2014
Chiang Chen Overseas Graduate Fellowship (10 recipients in China)	2013
National Graduate Student Scholarship of China	2013
First-Class Excellent Graduate Student	2011–2013
ACM SIGIR Student Travel Grant	2012
Huawei Graduate Student Scholarship	2012
Chiang Chen Scholarship (awarded to top 10 first-year CS graduate students)	2011
Outstanding Bachelor Thesis Award, ZJU	2010
National Undergraduate Scholarship of China	2009
Scholarship of Excellent Academic Achievements, ZJU	2007–2009

📺 SELECTED PRESENTATIONS

1. “Regions, Periods, Activities: Uncovering Urban Dynamics via Cross-Modal Representation Learning”, WWW, Perth, Australia, 2017.
2. “GMove: Group-Level Mobility Modeling Using Geo-Tagged Social Media”, KDD, San Francisco, US, 2016.
3. “Assembler: Efficient Discovery of Spatial Co-evolving Patterns in Massive Geo-sensory Data”, KDD, Sydney, US, 2015.
4. “Splitter: Mining Fine-Grained Sequential Patterns in Semantic Trajectories”, VLDB, Hangzhou, China, 2014.
5. “Evaluating Geo-Social Influence in Location-Based Social Networks”, CIKM, Maui, US, 2012.
6. “See-To-Retrieve: Efficient Processing of Spatio-Visual Keyword Queries”, SIGIR, Portland, US, 2012.
7. “What-You-Retrieve-Is-What-You-See: A Preliminary Cyber-Physical Search Engine”, SIGIR, Beijing, China, 2011.

i PROFESSIONAL SERVICE

Program Committee: CIKM’17, SMASC’17

Journal Reviewer: *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, *IEEE Transactions on Big Data (TBD)*, *ACM Transactions on Intelligent Systems and Technology (TIST)*

Conference External Reviewer: WWW’17, SIGMOD’16, KDD’16, EDBT’16, KDD’15, EDBT’15, SDM’15, ICDE’14, KDD’14, WWW’13, VLDB’12, VLDB’11, TKDE