

CURRICULUM VITAE

CHENGXI ZANG

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SHORT BIOGRAPHY

Chengxi Zang is currently a postdoctoral research associate in the Weill Cornell Medicine. He got his Ph.D. from Tsinghua University in 2019 with an Excellent Ph.D. Award at Tsinghua University (top 3%). He has worked extensively on mining, modeling and learning the structures and dynamics of complex social and biological systems. For example, he is the first one who studied the human and social dynamics of WeChat at a billion scale, and he also investigated millions of information cascades in Tencent Weibo. Currently, his focus is drug discovery driven by large-scale chemical data and AI. His research won ICDM'18 Best Paper Candidate and Best Paper Award at AAAI'20 Workshop on Deep Learning on Graphs.

RESEARCH INTERESTS

I focus on mining, modeling and learning the structures and dynamics of complex social and biological systems. For example, I am the first one who studied the evolution dynamics and human/social behaviors of WECHAT at billion scale. I also investigated millions of information cascades in Tencent WEIBO. My current focus is [drug discovery](#) driven by AI and large chemical data. My methodologies are adopted from data mining, network science and machine learning.

EDUCATION

- **TSINGHUA UNIVERSITY**, Beijing, China, August 2013 – January 2019
Ph.D. in Computer Science (Excellent Ph.D. Award in Tsinghua U., top 3 in CS Department)
Advisors: **Prof. Wenwu Zhu, Peng Cui.**
- **SUN YAT-SEN UNIVERSITY**, Guangzhou, China, September 2009 – July 2013
B.Sc. in Computer Science (GPA 4.1/5, Rank 1st/100)

RESEARCH EXPERIENCE

- **WEILL CORNELL MEDICINE**, New York-Presbyterian, New York City, NY.
Postdoctoral Associate in Healthcare Policy and Research
Advisor: **Prof. Fei Wang**
February 2019 - Present
- **NORTHEASTERN UNIVERSITY**, Boston, MA.
Visiting Scholar in Center for Complex Network Research
Advisor: **Prof. Albert-László Barabási**

CURRICULUM VITAE

July 2017- May 2018

- Working with visiting **Prof. Christos Faloutsos** from **CMU**
Summer in 2015, 2016
- Working with visiting **Prof. Chaoming Song** from **MIAMI UNIVERSITY**
Summer in 2014, 2015
- **SUN YAT-SEN UNIVERSITY**, Guangzhou, China
Advisor: **Prof. Jiwu Huang**
March 2011 – May 2012

PUBLICATIONS

JOURNALS

- **[J1] On Power Law Growth of Social Networks.** IEEE Transactions on Knowledge and Data Engineering (TKDE), 30, no. 9 (2018): 1727-1740.
Chengxi Zang, Peng Cui, Christos Faloutsos, Wenwu Zhu✉.

PH.D. DISSERTATION

- **Data-driven Dynamical Modeling of Complex Social Systems.** 2019. Chengxi Zang. Advisors: Wenwu Zhu, Peng Cui.

REFEREED CONFERENCE PROCEEDINGS

- **[C11] Neural Dynamics on Complex Networks.** The First International Workshop on Deep Learning on Graphs: Methodologies and Applications (DLGMA'20) in AAAI 2020. (**Best Paper Award**)
Chengxi Zang and Fei Wang.
- **[C10] Dynamical Origins of Distribution Functions,** ACM Conference on Knowledge Discovery and Data Mining (KDD), 2019. (Accept Rate (110 oral + 60 poster)/1200 = 14.2%, Oral)
Chengxi Zang, Peng Cui, Wenwu Zhu, and Fei Wang.
- **[C9] Uncovering Pattern Formation of Information Flow.** ACM Conference on Knowledge Discovery and Data Mining (KDD), 2019. (Accept Rate (110 oral + 60 poster)/1200 = 14.2%, Poster)
Chengxi Zang, Peng Cui, Chaoming Song, Wenwu Zhu, and Fei Wang.
- **[C8] Fates of Microscopic Social Ecosystems: Keep Alive or Dead?** ACM Conference on Knowledge Discovery and Data Mining (KDD), 2019. (Accept Rate (110 oral + 60 poster)/1200 = 14.2%, Oral)
Haoyang Li, Peng Cui, **Chengxi Zang**✉, Tianyang Zhang, Wenwu Zhu, and Yishi Lin.
- **[C7] Uncovering the Co-driven Mechanism of Social and Content Links in User Churn Phenomena,** ACM Conference on Knowledge Discovery and Data Mining (KDD), 2019. (Accept Rate (45 oral + 100 poster)/700 = 20.7%, Poster, Applied Data Science Track)
Yunfei Lu, Lingyun Yu, Peng Cui, **Chengxi Zang**, Renzhe Xu, Yihao Liu, Lei Li, and Wenwu Zhu.
- **[C6] Causation-Driven Visualizations for Insurance Recommendation,** IEEE International Conference on Multimedia & Expo (ICME), 2019, the Cross-media Analysis for Semantic Knowledge Reasoning and Transfer Workshop.
Zhixiu Liu, **Chengxi Zang**, Kun Kunag, Hao Zou, Hu Zheng, and Peng Cui

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- **[C5] Collective Human Behavior in Cascading System: Discovery, Modeling and Applications.** 2018 IEEE International Conference on Data Mining (ICDM'18). (Acceptance Rate 84/948 = 8.86%, Full Paper, **Best Paper Candidate**)
Yunfei Lu, Linyun Yu, Tianyang Zhang, **Chengxi Zang**, Peng Cui, Chaoming Song, and Wenwu Zhu.
- **[C4] Learning and Interpreting Complex Distributions in Empirical Data.** ACM Conference on Knowledge Discovery and Data Mining (**KDD**), **2018**. (Acceptance Rate 181/983 = 18.4%, Oral)
Chengxi Zang, Peng Cui, Wenwu Zhu.
- **[C3] Long Short Memory Process: Modeling Growth Dynamics of Microscopic Social Connectivity.** ACM Conference on Knowledge Discovery and Data Mining (**KDD**), **2017**. (Acceptance Rate 131/748 = 17.5%, Oral)
Chengxi Zang, Peng Cui, Christos Faloutsos, Wenwu Zhu.
- **[C2] Quantifying Structural Patterns of Information Cascades.** International World Wide Web Conference (**WWW Poster**), **2017**. (Acceptance Rate 67/166 = 40.4%)
Chengxi Zang, Peng Cui, Chaoming Song, Christos Faloutsos, Wenwu Zhu.
- **[C1] Beyond Sigmoids: the NetTide Model for Social Network Growth, and its Applications.** ACM Conference on Knowledge Discovery and Data Mining (**KDD**), **2016**. (Acceptance Rate 142/784 = 18.1%)
Chengxi Zang, Peng Cui, Christos Faloutsos.

TUTORIAL

- **[T1] Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI-20).** [“Differential Deep Learning on Graphs and its Applications”](#) February 7, 2020.

INVITED TALKS

- **[T7] ACM Conference on Knowledge Discovery and Data Mining (KDD).** “Learning and Interpreting Complex Distributions in Empirical Data”, August 2018.
- **[T6] Notre Dame, Computer Science Department.** “Modeling the Dynamics of WeChat Social System”, April 2018.
- **[T5] Harvard Medical School, Channing Network Science Seminar.** “Modeling the Dynamics of WeChat Social System”, March 2018.
- **[T4] ACM Conference on Knowledge Discovery and Data Mining (KDD).** “Long Short Memory Process: Modeling Growth Dynamics of Microscopic Social Connectivity”, August 2017.
- **[T3] Tencent Corp, Shenzhen, Tsinghua-Tencent Joint lab 2017 Annual Meeting.** “Long Short Memory Process: Modeling Growth Dynamics of Microscopic Social Connectivity”, 2017.
- **[T2] Tsinghua, 15th Anniversary Doctoral Student Forum of Tsinghua University.** “Beyond Sigmoid: the NetTide Model for Social Network Growth, and its Applications”, 2017.
- **[T1] Chinese University of Hong Kong (CUHK), Doctoral Student Forum of Beijing and Hong Kong.** “Beyond Sigmoid: the NetTide Model for Social Network Growth, and its Applications”, 2016

HONORS AND AWARDS

CURRICULUM VITAE

- Best Paper Award in the First International Workshop on Deep Learning on Graphs: Methodologies and Applications (DLGMA'20) in AAAI 2020.
- Excellent Ph.D. Award in the Tsinghua University (top 3 in CS department. Top 3%, 70 among 2279 Ph.D.s in all departments), 2019-07.
- Excellent Ph.D. Dissertation Award in the Computer Science Department of Tsinghua University, (top 3%) 2019-07.
- Best Paper Candidate in 2018 IEEE International Conference on Data Mining (ICDM'18)
- Tencent Rhino-Bird Elite Training Program, 2018.
- SIGKDD Student Travel Award, London, 2018.
- SIGKDD Student Travel Award, Halifax, Nova Scotia, Canada, 2017.
- Best oral presentation in the 15th Anniversary Doctoral Student Forum of Tsinghua University, 2017.
- Tsinghua Scholarship for Overseas Graduate Studies, 2016.
- Glarun Scholarship in Tsinghua, 2016.
- SIGKDD Student Travel Award, San Francisco, CA, USA, 2016.
- National scholarship, 2010.
- First class scholarship in Sun Yat-Sen University, 2009-2011.

PROFESSIONAL SERVICES

PC Member

- ACM International Conference on Information and Knowledge Management (CIKM) 2019

Reviewer

- IEEE Transactions on Big Data
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- ACM Transactions on Knowledge Discovery from Data (TKDD)
- Springer Data Mining and Knowledge Discovery (DMKD)
- ACM International Conference on Information and Knowledge Management (CIKM) 2019
- AAAI 2020

Session Chair

- 2017, Doctoral Student Forum of Tsinghua Universities in Beijing and Taiwan
- 2016, Doctoral Student Forum of Beijing and Hong Kong

TEACHING

- TA in **Tsinghua: Big Data Analysis B**, 2015-2016 Fall for Graduate Students
- TA in **Tsinghua: Big Data Analysis and Processing**, 2015-2016 Spring for Graduate Students
- TA in **Tsinghua: Big Data Analysis and Processing**, 2014-2015 Spring for Graduate Students

INTERSHIPS

- **Tencent Guangzhou Research Institute, QQ Mail Team**, July – October 2012
- **Tencent, WeChat, Pattern Recognition Group**, June 2015

SOFTWARES

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- Dating system for Perfect Dating Show in Guizhou Province TV Station, including iPad app, PC terminal and networking system.
- QQ Mail multimedia uploading module.
- <https://github.com/calvin-zcx>