Tianyi Wang

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Appointments

- Senior R&D Engineer, Baidu Research, Big Data Lab *Jul., 2016 to present*

- Research Intern, Baidu Research, Big Data Lab *Apr. 2015 to Jul. 2016*

- Research Intern, IBM China Research Lab *Jul. 2011 to Nov. 2011*

Education

- **PhD** candidate in Department of Electronic Engineering, Tsinghua University *Sep., 2011 to Jul. 2016*

- Visiting scholar in UC Santa Barbara with Prof. Ben Y. Zhao and Haitao Zheng *Sep. 2013 to Aug. 2014*

- **B.E.** Student in Department of Electronic Engineering, Tsinghua University *Sep., 2007 to Jul., 2011*

Research Interests

I work on mining, measuring and modeling of large scale data, *e.g.*, Online Social Networks (OSNs), crowd-sourcing platforms, spatial-temporal sensing data and web queries. Most of my works are data-driven and modeling based. The goal is to make use of the data (of all kinds), and obtain intrivial and underground knowledge from the data. I also have wide interests on machine learning, natural language processing(NLP) and other fundenmental problems. Specifically I have focused on smart Question Answering and machine reading comprehension since Oct. 2016.

Publications

1. Unbiased Sampling in Directed Social Graph. **Tianyi Wang**, Yang Chen, Zengbin Zhang, Peng Sun, Beixing Deng, Xing Li. In Proc. of ACM SIGCOMM Computer Communication Review, 2010, 40(4):401-402.

2. Understanding Graph Sampling Algorithms for Social Network Analysis. **Tianyi Wang**,Yang Chen, Zengbin Zhang, Tianyin Xu, Long Jin, Pan Hui, Beixing Deng, Xing Li. In Proc. of Simplex 2011.

3. Albatross Sampling: Robust and Effective Hybrid Vertex Sampling for Social Graphs. Long Jin, Yang Chen, Pan Hui, Cong Ding, **Tianyi Wang**, Athanasios Vasilakos, Beixing Deng, Xing Li. In Proc. of HotPlanet 2011.

4. Understanding User Behavior in Online Social Networks: A Survey. Long Jin, Yang Chen, **Tianyi Wang**, Pan Hui, Athanasios Vasilakos. In IEEE Communications Magazine, 2013, 51(9):144-150.

5. Characterizing and Detecting Malicious Crowdsourcing. **Tianyi Wang**, Gang Wang, Xing Li, Haitao Zheng, Ben Y. Zhao. In ACM SIGCOMM Computer Communication Review, 2013, 43(4): 537-538.

6. Man vs. Machine: Practical Adversarial Detection of Malicious Crowdsourcing Workers. Gang Wang, **Tianyi Wang**, Haitao Zheng, Ben Y. Zhao. In Proc. of Usenix Security 2014.

7. Whispers in the Dark: Analysis of an Anonymous Social Network. Gang Wang, Bolun Wang, **Tianyi Wang**, Ana Nika, Haitao Zheng, Ben Y. Zhao. In Proc. of IMC 2014.

8. Crowds on Wall Street: Extracting Value from Collaborative Investing Platforms. Gang Wang, **Tianyi Wang**, Bolun Wang, Divya Sambasivan, Zengbin Zhang, Haitao Zheng, Ben Y. Zhao. In Proc. of CSCW 2015.

9. The Power of Comments: Fostering Social Interactions in Microblog Networks. **Tianyi Wang**, Yang Chen, Yi Wang, Bolun Wang,Gang Wang, Xing Li, Haitao Zheng, Ben Y. Zhao. In Frontiers of Computer Science, 2016, 10(5): 889-907.

10. Defending against Sybil Devices in Crowdsourced Mapping Services. Gang Wang, Bolun Wang, **Tianyi Wang**, Ana Nika, Haitao Zheng, Ben Y. Zhao. In Proc. of MobiSys 2016.

11. Demand Driven Store Placement via Multiple Spatial-temporal Data. Mengwen Xu, **Tianyi Wang**, Zhengwei Wu, Jingbo Zhou, Jian Li, Haishan Wu. To appear in Sig Spatial 2016.

12. Value and Misinformation in Collaborative Investing Platforms. **Tianyi Wang**, Gang Wang, Bolun Wang, Divya Sambasivan, Zhang Zengbin,Xing Li, Haitao Zheng, Ben Y. Zhao.In ACM Transactions on the Web (TWEB), 2017, 11(2): 8.

Research Projects

- **QA and reading comprehension (@Baidu)**

  with *Dr. Wei Fan*   *Oct., 2016 to present*

  – Deep learning based QA for medical knowledge and guidance
  – Design an AI bot which passes the medical licensing examination

- **Mining large scale temporal-spatial data (@Baidu)**

  with *Dr. Haishan Wu*   *Apr., 2015 to Oct. 2016*

  – Site optimization for offline stores, *e.g.*, Starbucks
  – Audience extension and customer recommendations

- **Wisdom of crowdsourced stock platform SeekingAlpha**

  with *Prof. Ben Zhao* and *Haitao Zheng*   *Sep., 2013 to Jan. 2016*

  – sentiment analysis on Seeking Alpha articles and StockTwits messages
  – practical investment strategy based on crowdsourced articles
  – understanding and detecting stock manipulation

- **Measuring anonymous OSN Whisper**

  with *Prof. Ben Zhao* and *Haitao Zheng*   *Feb., 2014 to May, 2014*

  – topic modeling for abusive contents in Whisper
  – modeling and prediction of user engagement and stickness

- **Detecting malicious crowdsourced workers**

  with *Prof. Ben Zhao* and *Haitao Zheng*   *Apr., 2013 to Feb., 2014*

  – modeling malicious crowdsourced worker behavior
  – detection with supervised machine learning methods
  – study the robustness in adversary scenarios

- **Measurement of Sina Weibo**

  with *Prof. Ben Zhao* and *Haitao Zheng*   *Jul., 2012 to Aug., 2013*

  – measure the unique function of *comments*
  – reveal how function impacts the user behavior

- **Graph sampling in online social networks**

  with *Dr. Yang Chen*   *Mar., 2010 to Jul., 2011*

  – propose algorithms of unbiased sampling in directed graphs
  – evaluation beyond degree distribution

Honors and Awards

- National scholarship   *Sep., 2008* and *Dec., 2012*

- Excellent Graduate student in Tsinghua University   *Jul., 2011*

- First place of the undergraduate division in ACM Student Research Competition   *Sep., 2010*

- First place in the college entrance exam of Jiangsu Province   *Jun., 2007*