

Zifei SHAN

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Academics

- **Peking University** Beijing, China
B.S. Candidate in Computer Science
Sept. 2009 – Jun. 2013
 - GPA: 3.63/4 (overall), ranked 25/150 (department); 3.79/4 (major)
- **Technion—Israel Institute of Technology** Haifa, Israel
Research Exchange Student in Faculty of Electrical Engineering
Sept. 2012 – Feb. 2013

Research

- **Computer Networks and Distributed Systems Lab, Peking University** Beijing, China
Advised by Prof. Yafei Dai
Jun. 2011 – Present
 - Researched on Sybil Attacks in Online Social Networks (OSNs), supervised by Jing Jiang, in collaboration with Renren.com, the largest OSN in China. Detected sybil groups in Renren based on high social degree and low popularity, validated the groups by action time similarity, and done measurements on user and group attributes, strong ties among groups, evolution of groups including increasing and merging pattern.
 - Participated in community analysis of Renren's latent interaction network.
 - Conducted independent research on Cloning Attacks in OSNs. Improved the attack pattern and tested its feasibility; provided a back-end defending system based on IP prefix.
 - Conducted independent research on ranking and analyzing baseball networks. Raised and evaluated a ranking algorithm for networks with multiple interplaying indicators; measured the baseball network on its evolution and pitchers' batting ability.
- **DSL4HCI Research Group, Technion** Haifa, Israel
Advised by Prof. Daniel A. Freedman
Feb. 2012 – Present
 - One of the two co-leaders of the research group, doing research on Domain Specific Language for Human Computer Interactions.
 - We aim to create a language to describe universal UI applications, and write a transpiler to convert a single piece of code to UI applications on multiple media channels like Web, desktop, mobile, command line, etc.

Peer-Reviewed Publications

- Jing Jiang, **Zifei Shan**, Wenpeng Sha, Xiao Wang, and Yafei Dai. Detecting and Validating Sybil Groups in the Wild. In *Proc. 32nd International Conference on Distributed Computing Systems Workshops (ICDCSW '12)*.
- **Participate in:** Jing Jiang, Christo Wilson, Xiao Wang, Wenpeng Sha, Peng Huang, Yafei Dai, and Ben Y. Zhao. Understanding Latent Interactions in Online Social Networks. *Revise & Resubmit to ACM Transactions on the Web (TWEB)*. My work includes the measurement of the communities of latent, visible and social graphs in Renren.

Manuscripts in Submission

- Jing Jiang, **Zifei Shan**, Xiao Wang, and Yafei Dai. Detecting, Validating and Measuring Sybil Groups in the Wild, submitted to *ACM Transactions on Knowledge Discovery from Data (TKDD)*.
- **Zifei Shan**, Shiyinxue Li, and Yafei Dai. GameRank: Ranking and Analyzing Baseball Network. submitted to *2012 ASE International Conference on Social Informatics*.
- **Zifei Shan**, Haowen Cao, Jason Lv, Cong Yan, and Annie Liu. Enhancing and Identifying Cloning Attacks in Online Social Networks. submitted to *ACM International Conference on Ubiquitous Information Management and Communication (ICUIMC '13)*.

Course / School Projects

- **MLB illustrator: visualize and rank baseball networks** http://mlbillustrator.com/
Aug. 2012 – Sept. 2012
Course project of SI 508, given by Prof. Qiaozhu Mei (University of Michigan)
 - Visualized the MLB game data as a heterogeneous network, provided statistics, and ranked the batting and pitching ability of players.
 - Conducted independent research based on the project, and raised GameRank—a ranking algorithm for networks with multiple interplaying indicators.
- **Beijing 3-Day Startup Website** http://www.beijing3ds.org/
Aug. 2012 – Oct. 2012
Global startup event & school project in PKU and THU. Website back-end designer.
 - Built NGINX web server, postfix email server, and application form handler.
 - Handled verification, text extraction, PDF generation, and email notification using local email service; successfully processed all the applications in Beijing3DS event.
- **Minijava compiler for Android** Sept. 2011 – Dec. 2011
Worked on optimization; realized general optimizations based on dataflow analysis.
- **Question answering system on Chinese Wikipedia** Oct. 2011 – Dec. 2011
Team leader; designed QA algorithm using Chinese NLP techniques.
- **WordNet viewer featuring force-driven graph of words** May. 2011 – Jun. 2011
Designed the dynamic relationship graph with an originated force-driven layout algorithm.
- **Kademlia network distributed simulation** Oct. 2010 – Jan. 2011
Team leader; implemented a UDP-based P2P network using Kademlia DHT.
- **AI for game “Blokus” generated by Genetic Algorithm** May. 2010 – Jun. 2010
Designed game AI; used GA to refine arguments for AI; ranked top 20% in department.
- **2D Shooting Game programmed with Haaf’s Game Engine** Jan. 2010 – Mar. 2010
Sole developer; used C++ OO programming; designed barrages with a force model.

Honors

- **National Scholarship (Rank: 1/35)**, achieved twice 2011 and 2012
- **Kwang-Hua Scholarship (Rank: 3/36)**, Kwang-Hua Education Foundation Dec. 2010
- **Meritorious Winner of Interdisciplinary Contest in Modeling (ICM)** Feb. 2012
- **Excellent Student in Academy, Moral and Health, Peking University** 2010, 2011 and 2012
- **Honor Track of Computer Science Completion, Peking University** Apr. 2012
 - Practice for Compiler Design, ranked as Top 5%; Data Structure and Algorithms(A), ranked as Top 10%; Practice of Programming in C&C++, ranked as Top 10%; Introduction to Computing(A).

Technical and Language Skills

- **Programming languages:** C/C++, Java, JavaScript, Python, PHP, HTML, SQL
- **Unix tools:** Bash scripting, MakeFile, Git, NGINX
- **Manuscript preparation:** L^AT_EX, Matplotlib, gnuplot, Inkscape
- **Miscellaneous:** Hadoop, OpenMP, MPICH2, D3.js, Prefuse, Gephi, ANTLR, StringTemplate, C++ Boost, ICTCLAS
- **English proficiency:** TOEFL 104 (R26, L26, S23, W29); GRE V400, Q800, AW3.5.

Personal

- **Captain of EECS Baseball Team, Peking University** 2010 – 2012
- **Class monitor, Peking University** 2009 – Present