

Zifei SHAN

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Academics

- **Peking University**
B.S. Candidate in Computer Science
◦ GPA: 3.82/4 (CS major); 3.63/4 (overall), ranked 25/150 (department)
Beijing, China
Sept. 2009 – Jun. 2013
- **Technion—Israel Institute of Technology**
Research Exchange Student in Faculty of Electrical Engineering
Haifa, Israel
Sept. 2012 – Feb. 2013

Research

- **Computer Networks and Distributed Systems Lab, Peking University**
Advised by Prof. Yafei Dai
Beijing, China
Jun. 2011 – Present
 - Collaborated a research on Sybil Attacks in Online Social Networks (OSNs), supervised by Jing Jiang, in cooperation with Renren.com, the largest OSN in China. Detected ~1M sybil accounts and found sybil groups in Renren, based on the attribute of social degree and low popularity. Evaluated the detector by action time similarity. Done measurements on user statistics, relationship between communities, and network evolution including increasing and merging pattern.
 - Involved in assessing the impact of user-interaction transparency on Renren's user behavior. Constructed latent interaction graphs as models of user browsing behavior, and compare their structural properties against those of both visible interaction graphs and social graphs.
 - Led independent research on profile-cloning attacks in OSNs. Improved the attack pattern and tested its feasibility; provided a back-end defending system based on IP prefix.
 - Led 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.
- **Technion-Peking Research-Exchange Program**
Advised by Prof. Daniel A. Freedman
Haifa, Israel
Feb. 2012 – Present
 - Co-leading a research project on the intersection of Programming Language, Systems, and Human Computer Interaction.
 - Aiming at designing a description language and its compiler to automate the creation of a certain kind of services and user interfaces.

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)*.
- **Zifei Shan**, Shiyinxue Li, and Yafei Dai. GameRank: Ranking and Analyzing Baseball Network. Accepted for publication in *2012 ASE International Conference on Social Informatics*. (Acceptance rate: 11.5%)
- **Zifei Shan**, Haowen Cao, Jason Lv, Cong Yan, and Annie Liu. Enhancing and Identifying Cloning Attacks in Online Social Networks. Accepted for publication in *ACM International Conference on Ubiquitous Information Management and Communication 2013 (ICUIMC '13)*. (Acceptance rate: 29%)

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)*.

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
- **The CCF Outstanding Undergraduate Award**, China Computer Federation Oct. 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