

Wei Yang

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EDUCATION

- University of Illinois*, Champaign, Illinois, USA
Ph.D. candidate in Computer Science, since 2013
- North Carolina State University*, Raleigh, USA
M.S. in Computer Science, 2013
- Shanghai Jiao tong University*, Shanghai, China
B.E. in Software Engineering, School of Software, 2011
B.S. in Accounting, Antai College of Economics & Management, 2011

RESEARCH EXPERIENCE

- **Student Researcher, University of California Berkeley, since 05/2017**
 - Advisor: Prof. Dawn Song
- **Research Assistant, Illinois Security Lab/ASE Research, UIUC/NCSSU, since 08/2011**
 - Advisor: Prof. Carl A. Gunter and Prof. Tao Xie
- **Research Intern, IBM Thomas J. Watson Research Center, 05/2016-08/2016**
 - Manager: Dr. Marco Pistoia
- **Research Intern, Samsung Research America, 05/2015-08/2015**
 - Manager: Dr. Hongxia Jin
 - Genetic classification and evolution of mobile malware (w/ Dr. Deguang Kong)
 - A lightweight technique for privacy-preserving mobile advertising (w/ Dr. Bin Liu)
- **Research Intern, Fujitsu Lab of America, 05/2012-08/2014**
 - Mentor: Dr. Mukul Prasad
 - Malware detection framework for mobile market. 05/2014-08/2014
 - Performance analysis of hybrid mobile applications. 05/2013-08/2013
 - Automated GUI-model generation of mobile applications. 05/2012-08/2012
- **Undergraduate Member, The STAP Group, SJTU, 02/2010 – 07/2011**
 - Advisor: Prof. Jianjun Zhao
 - Control-flow analysis in X10. 08/2010-07/2011
 - Enriching natural language ontology in Chinese. 02/2010-05/2011
- **Member, SJTU-Intel Pilot Class, SJTU, 09/2008 - 07/2011**
 - An outlier detection algorithm by using Affinity Propagation.
- **Visiting Student, Sino-US Global logistics Institute's lab, SJTU, 10/2008 – 09/2009**
 - Mentor: Prof. Dong Wang

PUBLICATIONS

[1] **A Grey-box Approach for Automated GUI-Model Generation of Mobile Applications.**

Wei Yang, Mukul Prasad and Tao Xie.

In Proc. of 16th International Conference on Fundamental Approaches to Software Engineering. (FASE 2013), Rome, Italy, March 2013. (Acceptance rate: 23.2%, 26 out of 112).

[2] **WHYPER: Towards Automating Risk Assessment of Mobile Applications**

Rahul Pandita, Xusheng Xiao, Wei Yang, William Enck and Tao Xie.

In Proc. Of 22nd USENIX Security Symposium. (USENIX Security '13), Washinton, D.C., USA, August 2013. (Acceptance rate: 16.2%, 45 out of 277)

[3] **Improving Mobile Application Security via Bridging User Expectations and Application Behaviors.**

Wei Yang, Xusheng Xiao, Rahul Pandita, William Enck and Tao Xie.
In Proc. Of 2014 Symposium and Bootcamp on the Science of Security. (HotSoS' 14), Raleigh, NC, April 2014.

[4] **AppContext: Differentiating Malicious and Benign Mobile App Behavior under Contexts.**

Wei Yang, Xusheng Xiao, Benjamin Andow, Sihan Li, Tao Xie and William Enck.
In Proc. of 37th International Conference on Software Engineering. (ICSE 2015), Firenze, Italy, May 2015. (Acceptance rate: 18.5%, 84 out of 452).

[5] **Free for All! Assessing User Data Exposure to Advertising Libraries on Android**

Soteris Demetriou, Whitney Merrill, Wei Yang, Aston Zhang and Carl A. Gunter.
In Proc. of the 23rd Annual Network and Distributed System Security Symposium (NDSS 2016), San Diego, CA, USA, February 2016. (acceptance rate: 15.4%, 60 out of 389)

[6] **Security Analytics for Mobile Apps: Achievements and Challenges.**

Wei Yang, Xusheng Xiao, Dengfeng Li, Huoran Li, Xuanzhe Liu, Haoyu Wang, Yao Guo, and Tao Xie.
In Journal of Cyber Security (in Chinese), 1(2), pages 1-14, April 2016.

[7] **Automated Test Input Generation for Android: Are We Really There Yet in an Industrial Case?**

Xia Zeng, Dengfeng Li, Wujie Zheng, Fan Xia, Yuetang Deng, Wing Lam, Wei Yang, and Tao Xie.
In Proceedings of the 24th ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE 2016), Industrial Track, Seattle, WA, November 2016

[8] **Automated Test Input Generation for Android: Towards Getting There in an Industrial Case.**

Haibing Zheng, Dengfeng Li, Xia Zeng, Beihai Liang, Wujie Zheng, Yuetang Deng, Wing Lam, Wei Yang, and Tao Xie.
In Proceedings of the 39th International Conference on Software Engineering (ICSE 2017), Software Engineering in Practice (SEIP), Buenos Aires, Argentina, May 2017.

[8] **Malware Detection in Adversarial Setting: Exploiting Feature Evolutions and Confusions in Android Apps**

Wei Yang, Deguang Kong, Tao Xie and Carl A. Gunter
To appear in Proc. of the 33rd Annual Computer Security Applications Conference (ACSAC 2017), San Juan, Puerto Rico, USA, December 2017. (acceptance rate: 19.7%, 48 out of 244)

SELECTED PROJECTS

[1] **EnMobile: Entity-based Analysis and Characterization of Mobile Applications**

Wei Yang, Mukul Prasad and Tao Xie
In collaboration with Fujitsu Laboratories of America, submitted.

[2] **PIFA: An Intelligent Phase Identification and Frequency Adjustment Framework for Mobile Computing**

Xia Zhang, Xusheng Xiao, Wei Yang, Yuchuan Liu and Cong Liu
In collaboration with NEC Laboratories America, in progress.

[3] **Characterizing Performance Bugs of Application-Database Interactions in Open-Source Software**

Mengqi Gu, Xiao Yu, Wei Yang, Tao Xie and Xintao Wu
In progress

[4] **Yesterday Once More, Resurging Malware Attack and Its Mitigation through Phylogenetic Detection**

Wei Yang, Deguang Kong, Hongxia Jin, Tao Xie and Carl Gunter
Submitted.

[5] Characterizing and Repairing Unwanted Behaviors for Android Apps

Wei Yang, Xusheng Xiao, Yafeng Lu, Cong Liu and Lingming Zhang
Submitted.

[6] AT-EASE: A Tool for Early and Quick Usability Evaluation of Smartphone Application

Wei Yang*, Xiao Yu*

*The name of first two authors are sorted by the alphabetical order of surnames.

[7] Identifying Semantic Differences in X10

Wei Yang, Jianjun Zhao

The work had been presented in Software Analysis and Testing Workshop affiliated to 10th National Software Application Conference (NASAC 2011).

[8] Computational Knowledge Based Search Engine

Wei Yang, Yan Zhao and Jianjun Zhao

The work had been supported by "National University Student Innovation Program".

PROFESSIONAL SERVICE

- **Program Committee**
 - ISSTA 2017, Artifact Evaluation Committee;
 - IEEE S&P 2016, Student Program Committee; ISSTA 2016, Artifact Evaluation Committee; OOPSLA 2016, Artifact Evaluation Committee; Eurosys 2016, Shadow Program Committee;
 - ECOOP 2015, Artifact Evaluation Committee;
- **Chair**
 - ASE 2017, Web Chair;
- **External Review**
 - ASE 2012; ISSTA 2012; ISSTA 2013; SPLASH 2013; MSR 2014; ICST 2014; ICSE 2015; ICST 2015, ASE 2015, ICSE 2016, IEEE S&P 2016; ASIACCS 2016; FSE 2016
- **Academic Conference Volunteer**
 - CCS 2012; FSE 2012, POPL 2016

EXTRACURRICULAR ACTIVITIES

- **Teaching Assistant, NCSU/UIUC**
 - CS 427, Software Engineering I 08/2014 – 12/2014
 - CSC 333, Automata, Grammars, and Computability 01/2012 – 05/2012
 - CSC 379, Computer Ethics 01/2012 – 05/2012
 - CSC/ECE 517, Object-Oriented Languages and Systems 08/2011 – 12/2011
- **Teaching Volunteer, Junior Achievement China(JA China)**
 - Teaching JA Economics in Shanghai 3rd Girl's High School 07/2007 – 01/2008
 - Teaching JA Economics in WeiYu High School. 02/2008 – 06/2008
- **Volunteer, The 2010 Shanghai World Expo**
 - Volunteer of Greenland District at Shanghai EXPO 2010 09/2010 – 10/2010

Award

- **Finalist, Qualcomm Innovation Fellowship 2016**
 - Presented at Qualcomm Research Center in March 23rd, 2016.
- **Travel Grant**
 - RWC 2016; VMCAI 2016; POPL 2016