

Yuanchun Li

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Research Interests

Mobile devices and apps produce a great deal of personal data. Such personal data precisely describes each end-user's behavior, interests, and surrounding environment. There are two related challenges for developers w.r.t. personal data:

1. How can we make use of such data to provide better personalized services?
2. How can we reduce end-users' privacy concern?

My research aim to address these challenges through software analysis and machine learning techniques.

Education

Ph.D., Computer Science, Peking University	2014.09 – Now
<ul style="list-style-type: none">• Advisors: Yao Guo, Xiangqun Chen, Gang Huang	
Visiting Student, HCII, Carnegie Mellon University	2016.09 – 2017.09
<ul style="list-style-type: none">• Advisors: Jason I. Hong, Yuvraj Agarwal	
B.S., Computer Science, Peking University	2010.09 – 2014.09

Professional Experiences

Research Intern, Microsoft Research, Redmond, USA	2018.05 – 2018.08
<ul style="list-style-type: none">• Advisors: Oriana Riva• Worked on converting traditional software into conversational bots	
Software Intern, Xiaomi Monetization Department, Beijing, China	2017.10 – 2018.05
<ul style="list-style-type: none">• Advisors: Chengming Wen• Worked on building personal knowledge graphs for privacy-friendly user modeling	

Publications

- **Peer-reviewed Journal Papers**

- [J.1] **Yuanchun Li**, Fanglin Chen, Toby Jia-Jun Li, Yao Guo, Gang Huang, Matthew Fredrikson, Yuvraj Agarwal, and Jason I. Hong. 2017. PrivacyStreams: Enabling Transparency in Personal Data Processing for Mobile Apps. Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. 1, 3, Article 76 (September 2017), 26 pages. (IMWUT, aka. UbiComp)
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- [J.2] **Yuanchun Li**, Baoxiong Jia, Yao Guo, and Xiangqun Chen. 2017. Mining User Reviews for Mobile App Comparisons. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 1, 3, Article 75 (September 2017), 15 pages. (IMWUT, aka. UbiComp)
- [J.3] Haoyu Wang, **Yuanchun Li**, Yao Guo, Yuvraj Agarwal, and Jason I. Hong. 2017. Understanding the Purpose of Permission Use in Mobile Apps. *ACM Trans. Inf. Syst.* 35, 4, Article 43 (July 2017), 40 pages (TOIS)
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- **Peer-reviewed Conference Papers**

- [C.1] Yao Guo, **Yuanchun Li**, Ziyue Yang, Xiangqun Chen. 2018. What's inside your app?: Understanding Feature Redundancy in Mobile Apps. *The IEEE/ACM International Conference on Program Comprehension (ICPC)*
- [C.2] Toby Jia-Jun Li, **Yuanchun Li**, Fanglin Chen and Brad A. Myers. 2017. Programming IoT Devices by Demonstration Using Mobile Apps. *End-User Development. International Symposium on End User Development (IS-EUD, Best Paper Award)*
- [C.3] **Yuanchun Li**, Yao Guo, and Xiangqun Chen. 2016. PERUIM: understanding mobile application privacy with permission-UI mapping. In *Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp, Best Paper Honorable Mention Award)*
- [C.4] **Yuanchun Li**, Yao Guo, Junjun Kong and Xiangqun Chen. 2015. Fixing Sensor-Related Energy Bugs Through Automated Sensing Policy Instrumentation. *IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED)*
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- **Posters and Demos**

- [P.1] **Yuanchun Li**, Ziyue Yang, Yao Guo and Xiangqun Chen. 2017. DroidBot: A Lightweight UI-Guided Test Input Generator For Android. *2017 IEEE/ACM 39th International Conference on Software Engineering Companion (ICSE-C)*
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- **Technical Report**

- [T.1] **Yuanchun Li**, Ziyue Yang, Yao Guo, Xiangqun Chen, Yuvraj Agarwal, and Jason Hong. "Automated Extraction of Personal Knowledge from Smartphone Push Notifications." *arXiv preprint arXiv:1808.02013*
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Open-Source Software

- DroidBot – A Lightweight UI-Guided Test Input Generator (300+ stars)
 - <https://github.com/honeynet/droidbot>
- PrivacyStreams – A Library for Easy and Secure Personal Data Processing (200+ stars)
 - <https://github.com/PrivacyStreams/PrivacyStreams>

Selected Honors, Grants and Awards

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| • National Scholarship | 2017 |
| • IS-EUD Best Paper Award | 2017 |
| • Bosch/Bezirk Internet of Things Hackathon - 1st place (\$1000) | 2016 |
| • UbiComp Best Paper Honorable Mention Award | 2016 |

- Google Summer of Code (\$5500) 2016
- Merit Student at Peking University 2016
- Google Summer of Code (\$5500) 2015

Teaching Experience

- Teaching Assistant, Operating System Labs (honor track) Fall 2014, Spring 2015
Fall 2015, Spring 2016
- Teaching Assistant, Compiler Techniques Spring 2015, Spring 2016
- Teaching Assistant, Introduction to Computer Systems Fall 2013, Fall 2014
- Mentor, Google Summer of Code Summer 2015, Summer 2016

Languages and Skills

- Language – Chinese (Mandarin) – Native
- Language – English – Professional working proficiency
- Programming Languages – Python, Java, C++, JavaScript, Scala, SQL, Lisp
- Techniques – Program analysis, reinforcement learning, applied natural language processing