Felix Xiaozhu Lin

January, 2019

Education

PhD	Dec. 2014	Rice University
MS	July 2008	Tsinghua University
BS	July 2006	Tsinghua University

Professional Experience

Aug. 2014 – present	Assistant Professor, School of ECE, Purdue University
May 2012 – Dec 2012	Intern, Microsoft Research
Jun 2011 – Aug 2011	Visiting researcher, IBM Research
Jan 2011 – Apr 2011	Intern, Nokia Research

Honors and Awards

[1] Google Faculty Award, 2016.

[2] NSF CISE Research Initiation Initiative (CRII), 2015.

[3] Best Paper Award, ACM Proc. Int. Conf. Architectural Support for Programming Languages and Operating Systems (ASPLOS), 2014.

Research Grants and Contracts Received

PI, "SaTC: CORE: Small: Collaborative: Guarding the Integrity of Mobile Graphical User Interfaces", NSF, 1718702, 08/01/2017 – 07/30/2020, $250,000.
PI, "CSR: Small: Collaborative Research: Efficient Exploitation of Heterogeneous Memory through OS/Compiler Support", NSF, 1619075, 09/01/2016 – 08/30/2019, $249,548.
PI, "Busting Idle Anomalies on Android Wear", Google faculty award.
PI, "CRII: CSR: Rethinking Operating System Structure for Wearable Devices", NSF, 1464357, 04/01/2015 – 03/31/2017, $175,000.

Conference Proceedings and Presentations

[1] "VStore: Reinventing Data Stores for Video Analytics," Tiantu Xu, Luis Materon Botelho, and Felix Xiaozhu Lin, in *Proc. Eurosys Conference (EuroSys)*, 2019

[2] "StreamBox-HBM: Stream Analytics on High Bandwidth Hybrid Memory," Hongyu Miao, Myeongjae Jeon, Gennady Pekhimenko, Kathryn S. McKinley, and Felix Xiaozhu Lin, in *Proc. ACM Int. Conf. Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2019.

[3] "Power SandBox: Power Awareness Redefined," Liwei Guo, Tiantu Xu, Mengwei Xu, Xuanzhe Liu, and Felix Xiaozhu Lin, in *Proc. ACM European System Conference (EUROSYS)*, acceptance rate 16% (43/262), 2018

[4] "DeepCache: Principled Cache for Mobile Deep Vision," Mengwei Xu, Mengze Zhu, Yunxin Liu, Felix Xiaozhu Lin, and Xuanzhe Liu, in *International Conference on Mobile Computing and Networking (MobiCom)*, acceptance rate 22% (42/187), 2018

[5] "ProfDP: A Lightweight Profiler to Guide Data Placement in Heterogeneous Memory Systems," Shasha Wen, Lucy Cherkasova, Felix Xiaozhu Lin, and Xu Liu, in *International Conference on on Supercomputing (ICS)*, acceptance rate 19% (36/193), 2018

[6] "Rethinking Resource Management in Mobile Web: Measurement, Deployment, and Runtime," (invited paper) Xuanzhe Liu, Yun Ma, and Felix Xiaozhu Lin, in *Proc. IEEE Int. Conf. Distributed Computing Systems (ICDCS)*, 2018.

[7] "StreamBox: Modern Stream Processing on a Multicore Machine," Hongyu Miao, Heejin Park, Myeongjae Jeon, Gennady Pekhimenko, Kathryn S. McKinley, and Felix Xiaozhu Lin, acceptance rate 21% (60/283), in *Proc. USENIX Annual Technical Conference (USENIX ATC)*, 2017

[8] "Characterizing Smartwatch Usage in The Wild," Xing Liu, Tianyu Chen, Feng Qian, Zhixiu Guo, Felix Xiaozhu Lin, Xiaofeng Wang, and Kai Chen, acceptance rate 18% (34/188), in *Proc. ACM Int. Conf. Mobile Systems, Applications and Services (Mobisys)*, 2017.

[9] "AppHolmes: Detecting and Characterizing App Collusion among Third-Party Android Markets," Mengwei Xu, Yun Ma, Xuanzhe Liu, Felix Xiaozhu Lin, and Yunxin Liu, acceptance rate 17% (164/966), in *Proc. the World Wide Web Conference (WWW)*, 2017.

[10] "Understanding the Characteristics of Android Wear OS," Renju Liu and Felix Xiaozhu Lin, in *Proc. ACM Int. Conf. Mobile Systems, Applications and Services (MobiSys)*, acceptance rate 16% (31/197), 2016.

[11] "*memif*: Towards Programming Heterogeneous Memory Asynchronously," Felix Xiaozhu Lin and Xu Liu, in *Proc. ACM Int. Conf. Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2016.

[12] "Characterizing Emerging Heterogeneous Memory," Du Shen, Xu Liu, and Felix Xiaozhu Lin, in *Proc. ACM SIGPLAN Int. Symposium on Memory Management (ISMM)*, 2016.

[13] "Characterizing Smartphone Usage Patterns from Millions of Android Users," Huoran Li, Xuanzhe Liu, Tao Xie, Kaigui Bian, Xuan Lu, Felix Xiaozhu Lin, Qiaozhu Mei, and Feng Feng, in *Proceedings of the 2015 Internet Measurement Conference (IMC)*, 2015.

[14] "Automated OS-level Device Runtime Power Management," Chao Xu, Felix Xiaozhu Lin, and Lin Zhong, in *Proc. Int. Conf. Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2015.

[15] "K2: A Mobile Operating System for Heterogeneous Coherence Domains," Felix Xiaozhu Lin, Zhen Wang, and Lin Zhong, in *Proc. Int. Conf. Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2014. **Best Paper Award**.

[16] "SmartAds: Bringing Contextual Ads to Mobile Apps," Suman Nath, Felix Xiaozhu Lin, Lenin Ravindranath, and Jitu Padhye, in *Proc. ACM Int. Conf. Mobile Systems, Applications and Services (MobiSys)*, 2013.

[17] "Reflex: Using Low-power Processors in Smartphones without Knowing Them," Felix Xiaozhu Lin, Zhen Wang, Robert LiKamWa, and Lin Zhong, in *Proc. Int. Conf. Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2012.

[18] "How far can client-only solutions go for mobile browser speed?" Zhen Wang, Felix Xiaozhu Lin, Lin Zhong, and Mansoor Chishtie, in *Proc. the World Wide Web Conference (WWW)*, 2012.

[19] "Power-efficient time-sensitive mapping in heterogeneous systems," Cong Liu, Jian Li, Wei Huang, Juan Rubio, Evan Speight, Felix Xiaozhu Lin, in *Proc. Int. Conf. Parallel Architectures and Compilation Techniques (PACT)*, 2012.

[20] "RhythmLink: Securely Pairing I/O-Constrained Devices by Tapping," Felix Xiaozhu Lin, Daniel Ashbrook, and Sean White, in *Proc. ACM Symp. on User Interface Software and Technology (UIST)*, 2011.

[21] "Dandelion: A framework for transparently programming phone-centered wireless body sensor applications for health," Felix Xiaozhu Lin, Ahmad Rahmati, and Lin Zhong, in *Proc. ACM Wireless Health*, 2010.

Journal Publications

[1] "ShuffleDog: Characterizing and Adapting User-Perceived Latency of Android Apps," Gang Huang, Mengwei Xu, Felix Xiaozhu Lin, Yunxin Liu, Yun Ma, Saumay Pushp, and Xuanzhe Liu, in *IEEE Transactions on Mobile Computing (TMC)*, 2017.

[2] "K2: A Mobile Operating System for Heterogeneous Coherence Domains," Felix Xiaozhu Lin, Zhen Wang, and Lin Zhong, in *ACM Transactions of Computer Systems (TOCS)*, 2015.

Refereed Workshop Publications

[1] "Decelerating Suspend and Resume in OS," Shuang Zhai, Liwei Guo, Xiangyu Li, and Felix Xiaozhu Lin, in *Proc. ACM Int. Workshop on Mobile Computing Systems and Applications (HotMobile)*, 2017.

[2] "Tell Your Graphics Stack That the Display Is Circular," Hongyu Miao and Felix Xiaozhu Lin, in *Proc. ACM Int. Workshop on Mobile Computing Systems and Applications (HotMobile)*, 2016.

[3] "Anatomizing System Activities on Interactive Wearable Devices," Renju Liu, and Felix Xiaozhu Lin, in *Proc. ACM Asia-Pacific Workshop on Systems (ApSys)*, 2015.

[4] "Draining our Glass: An Energy and Heat Characterization of Google Glass," Robert LiKamWa, Zhen Wang, Aaron Carroll, Felix Xiaozhu Lin, and Lin Zhong, in *Proc. ACM Asia-Pacific Workshop on Systems (ApSys)*, 2014.

[5] "Device drivers should not do power management," Chao Xu, Felix Xiaozhu Lin, and Lin Zhong, in *Proc. ACM Asia-Pacific Workshop on Systems (ApSys)*, 2014.

[6] "Supporting Distributed Execution of Smartphone Workloads on Loosely Coupled

Heterogeneous Processors," Felix Xiaozhu Lin, Zhen Wang, and Lin Zhong, in *Proc. Workshop on Power-Aware Computing and Systems (HotPower)*, 2012.

[7] "Why are Web Browsers Slow on Smartphones?," Zhen Wang, Felix Xiaozhu Lin, Lin Zhong, and Mansoor Chishtie, in *Proc. ACM Int. Workshop on Mobile Computing Systems and Applications (HotMobile)*, 2011.

Courses Developed

ECE 695 Operating Systems Design and Implementation

Courses In Charge Of

ECE 368 Data Structures (Every Fall 2014 – 2018)
ECE 695 Operating Systems Design and Implementation (Every Spring, 2015 – 2019)

Professional Society Activities

Organization: ACM
Activity: Reviewer, ACM Transactions on Mobile Computing;
TPC Member, ISMM, 2019;
External Review Committee Member, ASPLOS, 2019;
Student Travel Grant Chair, HotMobile, 2019;
TPC Member, HotMobile, 2019;
Publication Co-chair, ASPLOS, 2018;
TPC Member, WearSys, 2017;
External Review Committee Member, MobiSys, 2017;
Web chair & TPC Member, ISLPED, 2016;
External Review Committee Member, ASPLOS, 2016;
TPC Member, Workshop on Mobile Gaming, 2015;
TPC Member, ISLPED, 2015;
TPC Member, HotPower, 2015;
External Review Committee Member, ASPLOS, 2015;

Organization: IEEE
Activity: PC Member, ICDCS, 2018;
PC Member, SECON, 2016;
PC Member, SECON, 2015

Outreach Activities

Faculty advisor, Purdue Mechatronics Club
Judge, Purdue EXPO Scholarship, 2018
Judge, Spark Challenge, 2018
Faculty advisor, Purdue SURF, 2017
Faculty advisor, Purdue SURF, 2016