

Jinghao Shi

✉ jinghaos@buffalo.edu
🏠 jhshi.me/home
🏠 blue.cse.buffalo.edu/people/jinghaos

301B Davis Hall
Dept. of Computer Science and Engineering
University at Buffalo
Buffalo, NY, 14260-2500
☎ +1 (716) 645-0330



Education

- 2013.9–present* **University at Buffalo.**
PhD student. Dept. of Computer Science & Engineering
Advisors: Dr. Geoffrey Challen, Prof. Chunming Qiao
- 2011.9–2013.8* **The University of Hong Kong.**
PhD program (dropout), Dept. of Computer Science
Advisor: Prof. Cho-Li Wang
- 2007.9–2011.6* **University of Science and Technology of China.**
B.S. School of Computer Science and Technology

Research Interests

- Wireless Networks
- Mobile Computing
- Open to topics broadly related to systems and networking

Research Projects

Current

- 2013.8–Present* **PocketSniffer: A Measurement Offloading Framework for WLAN Spectrum Allocation**, [1, 5].

Abstract Client-side measurements have been proved valuable for spectrum allocation, yet collecting them from active devices is disruptive. We propose a new framework to offload such measurements to colocated idle smartphones. We implement a prototype system on Nexus 5 smartphones and OpenWRT router.

- 2013.8–Present* **PhoneLab: A Large Scale Smartphone Platform Testbed.**

Abstract PhoneLab has more than 200 participants that carry Nexus 5 smartphones as their primary device. We build the smartphone platform based on Android Open Source Project (AOSP), and introduce various instrumentation to Android framework and Linux Kernel to study how the phone works in the wild. The ability of OTA updates enables us to facilitate further experimental platform changes.

Past

2011.8–2013.1 **Share Virtual Memory for Non Cache Coherent Manycore architecture**, [3].

Abstract Hardware cache coherence is getting more complex and expensive to implement as the core count per processor keep increasing. We explore software enforced cache coherence in Intel Single-Chip-Cloud (SCC) manycore chip. We implement a prototype Share Virtual Memory (SVM) system for Barrelfish OS.

2010.10–2011.5 **SLIM: Cloud Backed Data Structures for Mobile Systems**, [4].

Abstract SLIM is a data structure library that provides familiar STL-like interfaces and abstractions while accommodates the storage hierarchy that transcends device/cloud boundary behind the scene.

Publications

Papers

- [1] **Jinghao Shi**, Zhangyu Guan, Chunming Qiao, Tommaso Melodia, Dimitrios Koutsonikolas, and Geoffrey Challen. Crowdsourcing access network spectrum allocation using smartphones. In *Proceedings of the 13th ACM Workshop on Hot Topics in Networks, HotNets '14*, page 17. ACM, 2014.
- [2] Geoffrey Challen, Jerry Antony Ajay, Nick DiRienzo, Oliver Kennedy, Anudipa Maiti, Anandatirtha Nandugudi, Guru Prasad, Sriram Shantharam, **Jinghao Shi**, and Lukasz Ziarek. maybe we should enable more uncertain mobile app programming. In *Proceedings of the 16th Workshop on Mobile Computing Systems and Applications, HotMobile '15*. ACM, 2015.
- [3] King Tin Lam, **Jinghao Shi**, Dominic Hung, Cho-Li Wang, Zhiquan Lai, Wangbin Zhu, and Youliang Yan. Rhymes: A shared virtual memory system for non-coherent tiled many-core architectures. In *The 20th IEEE International Conference on Parallel and Distributed Systems, ICPADS '14*. IEEE., 2014.
- [4] **Jinghao Shi**, Mingyuan Xia, Ming Wu, Lintao Zhang, and Zheng Zhang. Slim: Mmap from the cloud to device, and back. In *Proceedings of the Second Asia-Pacific Workshop on Systems, APSys '11*, pages 16:1–16:5, New York, NY, USA, 2011. ACM.

Posters & Demos

- [5] **Jinghao Shi**, Zhangyu Guan, Chunming Qiao, Tommaso Melodia, Dimitrios Koutsonikolas, and Geoffrey Challen. Crowdsourcing access network spectrum allocation using smartphones. Poster presented in *16th Workshop on Mobile Computing Systems and Applications, HotMobile '15*. ACM, 2015.

Teaching Experience

Spring 2015 **Introduction to Operating Systems**, Dr. Geoffrey Challen.

Spring 2014 **Introduction to Operating Systems**, Dr. Geoffrey Challen.

Technical Skills

Languages Python, Java, C.

Platforms Android Open Source Project (AOSP), OpenWRT.

Frameworks Django.

Tools Vim, Git, L^AT_EX.

References

- Dr. Geoffrey Challen (Advisor)
challen@buffalo.edu
Assistant Professor
Dept. of Computer Science & Engineering
University at Buffalo
- Prof. Chunming Qiao (Co-Advisor)
qiao@buffalo.edu
Professor
Dept. of Computer Science & Engineering
University at Buffalo
- Dr. Dimitrios Koutsonikolas
dimitrio@buffalo.edu
Assistant Professor
Dept. of Computer Science & Engineering
University at Buffalo

Miscellaneous

Blog Since 2011, I have been writing blogs (<http://jhshi.me>) to record the thoughts and gotchas during everyday hacking. So far it has received more than 150K page views in total .

Cycling I am a cycle commuter during the not-so-cold days. An energizing morning ride to campus or a relaxing afternoon ride to home is always enjoyable .