

**Yiying Zhang**  
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Assistant Professor  
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**ACADEMIC EXPERIENCE**

Postdoctoral Scholar Advisor: Prof. Steven Swanson	University of California, San Diego	September 2013 - 2015
Ph.D. in Computer Science Advisors: Prof. Remzi H. Arpaci-Dusseau and Prof. Andrea C. Arpaci-Dusseau Dissertation: De-indirection for Flash-based Solid State Drives	University of Wisconsin - Madison	August 2013
M.S. in Computer Engineering	University of Florida	December 2006
B.S. in Computer Science	Fudan University	June 2005

**APPOINTMENTS**

Purdue University, Assistant Professor	2015-
University of California, San Diego, Postdoctoral Scholar	2013-2015
University of Wisconsin-Madison, Research Assistant	2007-2013
University of Florida, Research Assistant	2005-2006

**INDUSTRY EXPERIENCE**

Research Intern, <b>NetApp Advanced Technology Group</b> Mentors: Dr. Gokul Soundararajan and Dr. Mark W. Storer	Sunnyvale, CA, Summer 2012
Research Intern, <b>Microsoft Research</b> Mentor: Dr. Vijayan Prabhakaran	Mountain View, CA, Summer 2010
Software Engineer Intern, <b>Microsoft</b> , Business Intelligence Group	Shanghai, China, Summer 2008
Software Design Engineer, <b>Optym</b>	Gainesville, FL, January - August 2007

**CONFERENCE AND JOURNAL PUBLICATIONS**

Yizhou Shan, Yutong Huang, Yilun Chen, **Yiying Zhang**, “LegoOS: a Disseminated, Distributed OS for Hardware Resource Disaggregation,” *the 13th USENIX Symposium on Operating Systems Design and Implementation (OSDI '18 Best Paper)* (Acceptance Rate: 18%)

Shin-Yeh Tsai, **Yiying Zhang**, “LITE Kernel RDMA Support for Datacenter Applications,” *Proceedings of the 26th ACM Symposium on Operating Systems Principles (SOSP '17)* (Acceptance Rate: 17%)

Yizhou Shan, Shin-Yeh Tsai, **Yiying Zhang**, “Distributed Shared Persistent Memory,” *Proceedings of the ACM Symposium on Cloud Computing 2017 (SoCC '17)* (Acceptance Rate: 23%)

**Yiying Zhang**, Jian Yang, Amirsaman Memaripour, Steven Swanson, “Mojim: A Reliable and Highly-Available Non-Volatile Memory System,” *Proceedings of the 20th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '15)* (Acceptance Rate: 17%)

**Yiying Zhang**, Steven Swanson, “A Study of Application Performance with Non-Volatile Main Memory,” *Proceedings of the 31st IEEE Conference on Massive Data Storage (MSST '15)* (Acceptance Rate: 30%)

**Yiying Zhang**, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, “Removing the Costs and Retaining the Benefits of Flash-Based SSD Virtualization with FSDV,” *Proceedings of the 31st IEEE Conference on Massive Data Storage (MSST '15)* (Acceptance Rate: 30%)

**Yiying Zhang**, Gokul Soundararajan, Mark W. Storer, Lakshmi N. Bairavasundaram, Sethuraman Subbiah, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, “Warming up Storage-Level Caches with Bonfire,” *Proceedings of the 11th Conference on File and Storage Technologies (FAST '13)* (Acceptance Rate: 19%)

Mohit Saxena, **Yiying Zhang**, Michael M. Swift, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, “Getting Real: Lessons in Transitioning Research Simulations into Hardware Systems,” *Proceedings of the 11th Conference on File and Storage Technologies (FAST '13)* (Acceptance Rate: 19%)

**Yiying Zhang**, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, “Warped Mirrors for Flash,” *Proceedings of the 29th IEEE Conference on Massive Data Storage (MSST '13)* (Acceptance Rate: 13%)

**Yiying Zhang**, Leo Prasath Arulraj, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, “De-indirection for Flash-based SSDs with Nameless Writes,” *Proceedings of the 10th Conference on File and Storage Technologies (FAST '12)* (Acceptance Rate: 19%)

Mohit Saxena, Michael M. Swift, **Yiying Zhang**, “FlashTier: a Lightweight, Consistent and Reliable Storage Cache,” *Proceedings of the 7th European Conference on Computer Systems (EuroSys '12)* (Acceptance Rate: 15%)

Hyeoncheol Kim, **Yiying Zhang**, Yong-Seok Heo, Heung-Bum Oh, Su-Shing Chen, “Specificity Rule Discovery in HIV-1 Protease Cleavage Site Analysis,” *Computational Biology and Chemistry* 32(1): 72-79 (2008) (Impact Factor: 1.37)

Hyeoncheol Kim, Tae-Sun Yoon, **Yiying Zhang**, Anupam Dikshit, Su-Shing Chen, “Predictability of Rules in HIV-1 Protease Cleavage Site Analysis,” *Proceedings of the 2006 International Conference on Computational Science (ICCS '06)* (Acceptance Rate: 35%)

## WORKSHOPS

Yizhou Shan, **Yiying Zhang**, “Disaggregating Memory with Software-Managed Virtual Cache,” *the 2018 Workshop on Warehouse-scale Memory Systems (WAMS '18)* (co-located with ASPLOS '18),

Shin-Yeh Tsai, **Yiying Zhang**, “MemAlbum: an Object-Based Remote Software Transactional Memory System,” *the 2018 Workshop on Warehouse-scale Memory Systems (WAMS '18)* (co-located with ASPLOS '18),

Yilun Chen, **Yiying Zhang**, “Split Container: Running Containers beyond Physical Machine Boundaries,” *the 2018 Workshop on Warehouse-scale Memory Systems (WAMS '18)* (co-located with ASPLOS '18),

Yizhou Shan, Shin-Yeh Tsai, **Yiying Zhang**, “Distributed Shared Persistent Memory,” *the 9th Annual Non-Volatile Memories Workshop (NVMW '18)*

**Yiying Zhang**, Yizhou Shan, Sumukh Hallymysore, “Disaggregated Operating System,” *17th International Workshop on High Performance Transaction Systems (HPTS '17)*

Linhai Song, Heqing Huang, Wu Zhou, Wenfei Wu, **Yiying Zhang**, “Learning from Big Malwares,”

*Proceedings of the 6th ACM Asia-Pacific Workshop on Systems (APSys '16)*

## POSTERS AND TECHNICAL REPORTS

Tengfei Tu, Xiaoyu Liu, Linhai Song, **Yiying Zhang**, “Understanding Real-World Concurrency Bugs in Go,” *Poster at the 13th USENIX Symposium on Operating Systems Design and Implementation (OSDI '18)*

Yizhou Shan, Yutong Huang, Yilun Chen, **Yiying Zhang** “Disaggregated Operating System” *Poster at the 26th ACM Symposium on Operating Systems Principles (SOSP '17)*

Yizhou Shan, Sumukh Hallymysore, Yutong Huang, Yilun Chen, **Yiying Zhang** “Disaggregated Operating System” *Poster at the ACM Symposium on Cloud Computing 2017 (SoCC '17)*

Shin-Yeh Tsai, Linzhe Li, Yiying Zhang “Rockies: A Network System for Future Data Center Racks” *WIP and Poster at the 14th USENIX Conference on File and Storage Technologies (FAST '16)*

**Yiying Zhang**, Jian Yang, Amirsaman Memaripour, Steven Swanson, “Mojim: A Reliable and Highly-Available Non-Volatile Memory System,” *Poster at the 11th USENIX Symposium on Operating Systems Design and Implementation (OSDI '14)*

**Yiying Zhang**, Vijayan Prabhakaran, “Duplication Aware Disk Array,” *Microsoft Technical Report (MSR-TR-2012-127)*

**Yiying Zhang**, Vijayan Prabhakaran, “DADA: Duplication Aware Disk Array,” *Poster at the 9th Conference on File and Storage Technologies (FAST '11)*

**Yiying Zhang**, Leo Prasath Arulraj, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, “Porting File System Structures to Nameless Writes,” *Poster at the 9th USENIX Symposium on Operating Systems Design and Implementation (OSDI '10)*

## PATENTS

“Software Platform for Building Data Center Software Applications,” Yiying Zhang, Shin-Yeh Tsai, Under Filing

“Duplicate-Aware Disk Arrays,” Vijayan Prabhakaran, Yiying Zhang, US Patent 20120226936 A1

“System and Method for an Efficient Cache Warm-up,” Lakshmi N. Bairavasundaram, Gokul Soundararajan, Mark W. Storer, Yiying Zhang, US Patent WO2014100253 A1

## RESEARCH GRANTS AND CONTRACTS RECEIVED

Principal Investigator, NSF, CSR: Small: Distributed Shared Persistent Memory, \$404,572.

Principal Investigator, Mellanox Co. Ltd., Hardware donation of 26x Connect-X4 network adapters and 1x MSB7800-ES2F Infiniband switch.

Principal Investigator, Samsung Co. Ltd., Hardware donation of 22x PM953 SSDs and 2x PM1725s (high-end) SSDs.

Principal Investigator, Purdue FY1617 PRF Research Grant, \$29,130.

## CONFERENCE PROGRAM COMMITTEE

2018: OSDI '18, USENIX ATC '18, FAST '19, ASPLOS '19  
 2017: ASPLOS '18, SoCC 2017, HotStorage '17  
 2016: ASPLOS '17 (external), Micro '16 (external)  
 2015: FAST '16, SoCC '15, MSST '15, Micro '15 (external)

2014: HotStorage '14, IEEE Cluster '14

**DIVERSITY ACTIVITIES**

Attended Diversity Workshop (2017, 2010, 2009) and led panel discussions in 2017  
the Grace Hopper Celebration of Women in Computing Conference (2014)