

AASHEESH KOLLI

Curriculum Vitae – June 2018

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Email: akolli@psu.edu – [Website](#) – [Google Scholar](#)

RESEARCH INTERESTS

Computer architecture, multiprocessor systems, systems software, persistent memories, FPGAs

EDUCATION

PhD, Computer Science and Engineering *Univ. of Michigan, Ann Arbor, May 2017*
Advisor: Prof. Thomas F. Wenisch
Dissertation Title: Architecting Persistent Memory Systems

MSc, Computer Science and Engineering *Univ. of Michigan, Ann Arbor, May 2013*

BE, Electrical and Electronics + MSc, Economics *BITS-Pilani, India, May 2011*
Thesis Advisor: Prof. Rajeev Balasubramonian, University of Utah

PROFESSIONAL EXPERIENCE

Pennsylvania State University, State College, PA *Aug 2018 –*
Assistant Professor

Pennsylvania State University, State College, PA *Aug 2017 – Aug 2018*
Adjunct Assistant Professor

VMware Research, Palo Alto, CA *Aug 2017 – Aug 2018*
Post-doc Researcher

Parabricks, Ann Arbor, MI *May 2017 – Aug 2017*
Software Engineer

Google, Madison, WI *May 2016 – Aug 2016*
Software Engineering Intern

HP Labs, Palo Alto, CA *May 2015 – May 2016*
Research Intern

ARM, Cambridge, UK *May 2013 – Dec 2013*
Research Intern

HONORS AND AWARDS

ACM SIGARCH/IEEE CS TCCA Outstanding Dissertation Award [\[Link\]](#) *2018*
Best Paper Award Nomination - MICRO *2016*
Rackham Graduate Fellowship, University of Michigan *2011*

CONFERENCE PUBLICATIONS

S. Liu, **A. Kolli**, J. Ren, S. Khan. “Crash Consistency in Encrypted Non-Volatile Main Memory Systems ” International Symposium on High Performance Computer Architecture (**HPCA**), Feb 2018.

A. Kolli, V. Gogte, A. Saidi, S. Diestelhorst, P. M. Chen, S. Narayanasamy, T. F. Wenisch. “Language-level persistency” International Symposium on Computer Architecture (**ISCA**), Jun 2017.

A. Kolli, J. Rosen, S. Diestelhorst, A. Saidi, S. Pelley, S. Liu, P. M. Chen, T. F. Wenisch. “Delegated Persist Ordering”. International Symposium on Microarchitecture (**MICRO**), Oct 2016.

***Nominated for best paper award.**

V. Gogte, **A. Kolli**, M. J. Cafarella, L. D’Antoni, T.F. Wenisch. “HARE: Hardware acceleration for regular expressions”. International Symposium on Microarchitecture (**MICRO**), Oct 2016.

A. Kolli, S. Pelley, A. Saidi, P. M. Chen, T.F. Wenisch. “High-performance Transactions for Persistent Memories”. International Conference on Architectural Support for Programming Languages and Operating Systems (**ASPLOS**), Apr 2016.

J. Izraelevitz, T. Kelly, **A. Kolli**. “Failure-Atomic Persistent Memory Updates via JUSTDO Logging”. International Conference on Architectural Support for Programming Languages and Operating Systems (**ASPLOS**), Apr 2016.

A. Hansson, N. Agarwal, **A. Kolli**, A. N. Udipi, T. F. Wenisch. “Simulating DRAM controllers for future system architecture exploration”. International Symposium on Performance Analysis of Systems and Software (**ISPASS**), Mar 2014.

A. Kolli, A. Saidi, T. F. Wenisch. “RDIP: Return-address-stack Directed Instruction Prefetching”. International Symposium on Microarchitecture (**MICRO**), Dec 2013.

REFEREED WORKSHOP PUBLICATIONS

I. Calciu, **A. Kolli**, J. Gandhi, S. Novakovic, M. Aguilera, R. Venkatasubramanian and P. Subrahmanyam. “Resource Disaggregation for the 99%”. Workshop on Warehouse-scale Memory Systems (**WAMS**), Mar 2018

A. Kolli, J. Gandhi, I. Calciu, S. Novakovic. “Remote Memory Persistency”. Workshop on Warehouse-scale Memory Systems (**WAMS**), Mar 2018

A. Kolli, V. Gogte, A. Saidi, S. Diestelhorst, P. M. Chen, S. Narayanasamy, T. F. Wenisch. “TARP: Translating Acquire-Release Persistency”. Non-Volatile Memory Workshop (**NVMW**), Mar 2017.

A. Kolli, S. Pelley, A. Saidi, P. M. Chen, T. F. Wenisch. “Persistency programming 101”. Non-Volatile Memory Workshop (**NVMW**), Mar 2015.

POSTERS

Pradeep Fernando, Irina Calciu, Jayneel, Gandhi, Ada Gavriloska, **A. Kolli**. “Persistence and Synchronization: Friends or Foes?”. Symposium on Operating Systems Principles (**SOSP**), Oct 2017

PATENTS

I. Calciu, J. Gandhi, P. Fernando, **A. Kolli** “Using TSX to speedup transactions in NVM”
US Patent Filed.

I. Calciu, **A. Kolli** “Cacheline persistence indicator for NVM using coherence states”

US Patent Filed.

T.P. Kelly, C.B. Morrey III, D. Chakrabarti, **A. Kolli**, Q. Cai, A.C. Walton, J. Izraelevitz, “Register store”

US Patent Filed.

J. Izraelevitz, **A. Kolli**, T.P. Kelly, C.B. Morrey III, “Resuming execution in response to a failure”

US Patent Filed.

S. Diestelhorst, **A. Kolli**, A. Saidi, P.M. Chen, T.F. Wenisch. “Controlling memory access to non-volatile memory”

US Patent Filed.

A. Saidi, T.F. Wenisch and **A. Kolli**. “Prefetching based upon return addresses”

US Patent Filed.

PRESENTATIONS

Remote Memory Persistency

- Workshop on Warehouse-scale Memory Systems (WAMS)

Mar 2018

Architecting Persistent Memory Systems

- University of Utah

Jan 2017

- Snowflake Computing

Jan 2017

- North Carolina State University

Feb 2017

- Microsoft Research, Redmond

Feb 2017

- Simon Fraser University

Mar 2017

- Virginia Tech

Mar 2017

- Pennsylvania State University

Mar 2017

- Stony Brook University

Mar 2017

- University of Rochester

Apr 2017

- University of Pennsylvania

Apr 2017

- VMware Research

May 2017

Invited guest lecture on Persistent Memory Systems

- Data Centric Systems (EECS 598 at Univ. of Michigan) by Prof. Reetuparna Das

Oct 2016

Delegated Persist Ordering

- International Symposium on Microarchitecture (MICRO)

Oct 2016

Gearing up for the advent of persistent memory

- Google, Madison

July 2016

High-performance transactions for persistent memories

- International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)

Apr 2016

- Non-Volatile Memories Workshop (NVMW)

Mar 2016

Persistency programming 101

- Non-Volatile Memories Workshop (NVMW)

Mar 2015

RDIP: Return-address-stack Directed Instruction Prefetching

- International Symposium on Microarchitecture (MICRO)

Dec 2013

SERVICE

Conference Program Committee Member

- HPCA *2019*
- ISPASS, MinMove *2018*

Journal Reviewer

- Computer Architecture Letters *2017*
- Computer Architecture Letters *2016*

Finance Chair

- IISWC *2018*

PRESS

Baking Specialization into Hardware Cools CPU Concerns [[Link](#)] *Next Platform, Sep 2016*

TEACHING

Fundamentals of Computer Architecture (CSE 530) *Fall 2018*

Introduction to Computer Organization (EECS 370) *Fall 2016*

Instructor, University of Michigan (Score: 4.6/5)

Parallel Computer Architectures (EECS 570) *Winter 2016*

Graduate Student Instructor, University of Michigan

OUTREACH ACTIVITIES

Why should one do a PhD? *Nov 2017*

Alumni seminar, BITS-Pilani

CS KickStart Hardware Lab, Organizer *Sep 2016*

Workshop aimed at improving female enrollments in CS at the Univ. of Michigan

CELAB Reading Group, Moderator *2015-2016*

University of Michigan