SARA MAHDIZADEH SHAHRI

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EDUCATION

PhD, Computer Science and Engineering — *Pennsylvania State University*
Advisor: Dr. Aasheesh Kolli — *August 2018 - Present*
GPA: 4 out of 4

B.Sc. Computer Engineering — *Sharif University of Technology*
Advisor: Prof. Hamid Sarbazi-Azad — *September 2013 - February 2018*
GPA: 18.51 out of 20

RESEARCH INTERESTS

My research interest broadly explores computer systems, computer architecture and memory systems. Currently, I mainly focused on memory persistency models. In my work, I try to address the trade-off between programmability and performance of persistent memories through software/hardware co-design solutions.

PUBLICATIONS

- **Sara Mahdizadeh Shahri**, Seyed Armin Vakil Ghahani, Aasheesh Kolli, (Almost) Fence-less Persist Ordering, International Symposium on Microarchitecture (MICRO), 2020.
- Seyed Armin Vakil Ghahani, **Sara Mahdizadeh Shahri**, Mohammad Bakhshalipour, Pejman Lotfi-Kamran, and Hamid Sarbazi-Azad, Making Belady-Inspired Replacement Policies More Effective Using Expected Hit Count, in arXiv preprint arXiv, 2018.
- Seyed Armin Vakil Ghahani, **Sara Mahdizadeh Shahri**, Mohammad-Reza Lotfi-Namin, Mohammad Bakhshalipour, Pejman Lotfi-Kamran, and Hamid Sarbazi-Azad, Cache Replacement Policy Based on Expected Hit Count, in IEEE Computer Architecture Letters(CAL), 2017.

POSTER

- **Sara Mahdizadeh Shahri**, Aasheesh Kolli, Delivering Correct and Fast Persistency Guarantees, The First Young Architect Workshop (YArch) co-located with HPCA, 2019.

PRESENTATION

- **Delivering Correct and Fast Persistency Guarantees**
  - The First Young Architect Workshop (YArch) co-located with HPCA, February 2019.

RESEARCH EXPERIENCE

Graduate Research Assistant — *Pennsylvania State University*
Advisor: Dr. Aasheesh Kolli — *August 2018 - Present*

- Designing persistency models for non-volatile caches
- Exploring persistent memory programming models' challenges and opportunities using compiler and hardware support
- Creating compatible benchmarks for Atlas-based non-volatile memory interfaces: HashMap, Redis, CTree, etc.

Undergraduate Research Assistant *Sharif University of Technology*
Advisor: Dr. Pejman Lotfi-Kamran, Prof. Hamid Sarbazi-Azad *2016 - 2018*

– Exploring different cache replacement policies in the last level cache with ChampSim simulator

TEACHING EXPERIENCE

Graduate Teaching Assistant *Pennsylvania State University*

– Graduate Computer Architecture, Dr. Aasheesh Kolli *Fall 2019*

Undergraduate Teaching Assistant *Sharif University of Technology*

– Digital Systems Design, Dr. Alireza Ejlali *Fall 2017*

– Computer Structure and Language, Dr. Hossein Asadi *Fall 2017*

– Computer Architecture, Dr. Hossein Asadi *Spring 2016*

– Logic Design, Dr. Alireza Ejlali *Spring 2016*

– Advanced Logic Design, Dr. Alireza Ejlali *Fall 2016*

HONORS AND AWARDS

– Among 7 top-selected replacement policies participated in The Second Cache Replacement Championship, Co-located with ISCA, 2017.

– Ranked 2nd in Computer Hardware Eng. among students graduated 2018, Sharif University of Technology B.Sc program at Computer Engineering Department

– Awarded certificate for top 25 percent of the contestants in FPGA national contest, Shahid Beheshti University, 2016.

– Ranked 201st in national university entrance exam among over 300,000 participants, 2013.

PROJECTS

– Parallel distributed file system *December 2019*

– In-order/ OoO Simulator *December 2019*

– Dynamic binary instrumentation for persistency guarantees *May 2019*

– Reducing Power Consumption according to Real-Time Constraints, *Jan 2018*

– Trax Game, Verilog *April 2016*

– NoC Simulator(MemoCode 2011), Verilog *April 2016*

– Great Little War Game *January 2015*

TECHNICAL SKILLS

Programming Languages	C/ C++, Shell, Python, Verilog, Assembly, Matlab, R
Simulators	Gem5, ChampSim, DRAMsim2, DRAMPower
Tools and Frameworks	LLVM, DynamoRIO, Souffl, Quartus, Xilinx ISE, gRPC, Google Protobuf, Qt
Operating Systems	Linux, Windows
Hardware	Altera DE2-115, Arduino, Raspberry Pi
Type Setting	LaTeX, Microsoft Office

LANGUAGE SKILLS

English, Persian.

REFERENCES

1. Prof. Aasheesh Kolli
   Assistant Professor of CSE, The Pennsylvania State University
2. Prof. Pejman Lotfi-Kamran
   Associate Professor of CS, IPM
3. Prof. Vijaykrishnan Narayanan
   Robert Noll Chair Professor of CSE, The Pennsylvania State University
4. Prof. Hamid Sarbazi-Azad
   Professor of CSE, Sharif University of Technology & IPM
5. Prof. Anand Sivasubramaniam
   Distinguished Professor of CSE, The Pennsylvania State University