Sara Mahdizadeh Shahri

Computer Science and Engineering Department,
Pennsylvania State University
Email: **smahdizadeh@psu.edu**, **sara.mahdizadeh.sh@gmail.com**

Education

- Ph.D. in Computer Science and Engineering, Pennsylvania State University. (2018–up to now)
  - GPA: 4 out of 4
    - **Selected Courses:** Graduate Computer Architecture, Graduate Algorithm Design and Analysis, Language-Based Security, Binary-level Analysis, Graduate Operating Systems
- B.Sc. in Computer Engineering, Sharif University of Technology, Tehran, *Iran*. (2013–2018)
  - GPA: 18.51 out of 20
    - **Selected Courses:** Advanced Computer Architecture: 20/20, Advanced Programming: 20/20

Research Interests

- Computer architecture
- Persistent memories
- Memory Systems

Publication(s)

- 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.
- 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.

Professional Experience

- Research Experience
  - Graduate Research Assistant, Computer Science and Engineering Department, Pennsylvania State University,
    Advisor: Dr. Aashessh Kolli (2018-Present)
    - 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, Supervisor: 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, Computer Science and Engineering Department, Pennsylvania State University,
    - Graduate Computer Architecture, Dr. Kolli (Fall 2019)
      Implementing C++ based simulator for in-order and out-of-order architecture
  - Teaching Assistant, Department of Computer Engineering, Sharif University of Technology
    - Digital Systems Design, Dr. Ejlali (Fall 2017)
    - Computer Structure and Language, Dr. Asadi (Fall 2017)
    - Computer Architecture, Dr. Asadi (Spring 2016)

        * Logic Design , Dr. Ejlali(Spring 2016)
        * Advanced Logic Design, Dr. Ejlali (Fall 2016)

- Notable Projects
    - Reducing Power Consumption according to Real-Time Constraints, Low Power design Project
    - Designer, Trax game based on verilog
    - Designer, Digital Systems Design Course Project: NoC Simulator(MemoCode 2011)
    - Programmer, Advanced Programming Course Project: Great Little War Game based on C++
- Developer and R&D, International Rayan Nik Electronic CO.LTD (2016)

Honors and Awards

- *The First Young Architect Workshop (YArch)* (Co-located with HPCA 2018)
  Poster: Delivering Correct and Fast Persistency Guarantees
- 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 attended in 2013, Sharif University of Technology B.Sc program at Computer Eng. Dep
- 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)
- 6th place of *Kharazmi National Robatic Competition* (2011)
- Participants of *RoboCup IranOpen* (2010)

Technical Skills

- **Programming Languages:** C++, C, Shell, Python, Verilog, MIPS, Matlab, R.
- **Simulators:** Gem5, ChampSim.
- **Tools and Frameworks:**
- Dynamorio, Quartus, LLVM, Soufflé, Xilinx ISE.
- **Operating Systems:** Linux, Windows.
- **Hardware:** Altera DE2-115, Arduino, Raspberry Pi.
- **Type Setting:** LaTeX, Microsoft Office.

Language Skills

- English
- Persian