

Mehrnoosh Raoufi

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Education	University of Pittsburgh <i>Ph.D. in Computer Science, advised by Prof. Youtao Zhang</i>	Pittsburgh, PA, US Aug 2017 - Dec 2023
	University of Tehran <i>B.Sc. in Computer Engineering</i>	Tehran, Iran Sep 2012 - Feb 2017

Research Computer Architecture • High-Performance Computing • Memory • Security

Experiences	ORACLE Software Engineer Intern - Database and Systems Technologies Oracle Exadata Product Development Team	Jun 2023 - Aug 2023
	University of Pittsburgh Research Assistant <i>Architectural support for performance, space, and bandwidth improvement in modern computing;</i> Secure Memory with ORAM Improving the efficiency of memory access pattern obfuscation to enhance user privacy deployment. Processing-in-Memory Accelerator Reducing bandwidth overhead of page deduplication of kernel KSM service in Linux KVM.	Aug 2017 - present
	Teaching Assistant Computer Architecture, Computer Organization and Assembly Language	

Publications

[DAC'23]	M. Raoufi, J. Yang, X. Tang, Y. Zhang, "EP-ORAM: Efficient NVM-Friendly Path Eviction for Ring ORAM in Hybrid Memory," Design Automation Conference, San Francisco, USA, July 2023.
[HPCA'23]	M. Raoufi, J. Yang, X. Tang, Y. Zhang, "AB-ORAM: Constructing Adjustable Buckets for Space Reduction in Ring ORAM," IEEE International Symposium on High-Performance Computer Architecture, Montreal, Canada, Feb 2023.
[HPCA'22]	M. Raoufi, Y. Zhang, and J. Yang, "IR-ORAM: Path Access Type based Memory Intensity Reduction for Path-ORAM," IEEE International Symposium on High-Performance Computer Architecture, Seoul, SK, April 2022.
[ISVLSI'19]	M. Raoufi, Q. Deng, Y. Zhang, and J. Yang, "PageCmp: Bandwidth Efficient Page Deduplication through In-memory Page Comparison," IEEE Computer Society Annual Symposium on VLSI, Miami, FL, USA, July 2019.




Skills

Programming Languages C/C++ | Java | Python

Web Development HTML | CSS | Bootstrap | JS

HDLs/CAD Tools Verilog | VHDL | ModelSim | Quartus | CodeVision | Altium | Hspice

Tools VS Code | IntelliJ | Git | VIM | Bash Script | MATLAB | \LaTeX | Pin Tool | SLURM

Projects	Object Detector Faster RCNN training and evaluation in <i>PyTorch</i> . (Computer Vision) 2021
	Deep Neural Network LeNet-5 from scratch in <i>PyTorch</i> . (HW Architecture for Machine Learning) 2019
	Mini Google Distributed indexer and search engine in <i>Java</i> . (Operating System)  2018
	Distributed Mutual Exclusion File update lock management using Lamport's. (Operating System) 2018
	Frogger Game Solver AI solver agent using <i>Q-learning</i> in <i>Python</i> . (Artificial intelligence) 2018
	Tomasulo Processor OoO processor using <i>C</i> in <i>SST</i> simulator. (Computer Architecture) 2017
	MAC Simulation Implemented using Network Simulator with <i>UDP</i> protocol. (Network Systems) 2015
	Firewall Simulator Servicing client processes based on their permissions in <i>C++</i> . (Network Systems) 2015
	Stock Market Web-based application using <i>Tomcat</i> and <i>AngularJS</i> . (Internet Engineering)  2016
	Motion Detector Speedup image processing using <i>Intel SIMD</i> instructions. (Parallel Processing) 2015
	SLAM Problem Robot programming with ultrasonic sensors and <i>Arduino</i> . (Rapid Prototyping) 2015
	MIPS Processor Synthesized in <i>Verilog</i> on Altera DE0 Board. (Computer Architecture Lab)  2015
	Step Counter Created <i>PCB</i> that interacts with Windows app via <i>USB</i> . (Interface Circuits) 2015
	Simple Router Implemented in <i>VHDL</i> simulated in <i>ModelSim</i> . (Computer Aided Design) 2014
Digital Piano Created <i>PCB</i> using <i>AVR</i> and SD card to play & record melodies. (Microprocessor) 2014	
Social Network <i>B+ tree</i> , graph partitioning and influence detector in <i>Java</i> . (Data Structure) 2013	

Honors & Awards	Student Travel Grant , International Symposium on Computer Architecture Jun 2022
	Best Poster Award for Course Project , Carnegie Mellon University May 2019
	Richard Newton Young Student Fellowship , Design Automation Conference Jun 2018
	Graduate Fellowship , University of Pittsburgh Sep 2017
	Ranked 3rd in Overall GPA , University of Tehran Feb 2017
	Top 1% in National University Entrance Exam , Iran Aug 2012

Services	AS Faculty Search Committee , University of Pittsburgh Jan 2023 - May 2023 Collaborated with a team of six faculty members on a faculty search committee.
	Conference Review Assistant Jun 2022 IEEE/ACM International Symposium on Microarchitecture (MICRO)
	Journal Reviewer Dec 2019 ACM Transactions on Embedded Computing Systems (TECS)