

Hodjat Asghari Esfeden

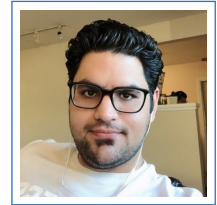
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Education

- 2015–2021 **University of California, Riverside, CA, USA, Ph.D., Computer Science.**
Thesis: Enhanced Register Data-Flow Techniques for High-Performance, Energy-Efficient GPUs
Advisor: Professor **Nael Abu-Ghazaleh**
- 2015–2017 **University of California, Riverside, CA, USA, M.Sc., Computer Science.**
GPA: 3.91/4.00
- 2010–2015 **Sharif University of Technology, Tehran, Iran, B.Sc., Computer Engineering.**

Interests

- Computer Architecture
- Performance Modeling/Simulation
- GPU Architecture/Compiler Solution Design
- Digital Design and Verification
- Efficient GPU Utilization for Machine Learning Purposes

Experience

- 2021–present **Hardware Engineer**, Google LLC, Sunnyvale, CA.
Winter'21 **Student Researcher**, Google LLC, Sunnyvale, CA.
Fall'20 **Hardware Engineering Intern**, Google LLC, Sunnyvale, CA.
Summer'20 **Hardware Engineering Intern**, Google LLC, Sunnyvale, CA.
Summer'19 **Hardware Engineering Intern**, Google LLC, Sunnyvale, CA.
Winter and **Instructor**, UC Riverside.
Spring'19 CS161: Computer Architecture (Design and Architecture of Computer Systems)
- 2015–Present **Graduate Student Researcher**, UC Riverside.
Spring'18 **Teaching Assistant**, UC Riverside.
CS161: Design and Architecture of Computer Systems & CS141: Intermediate Data Structures and Algorithms
- 2014–2015 **Training and Research Assistant**, Institute for Research in Fundamental Sciences (IPM.), Tehran, Iran.
- 2013–2014 **Undergraduate Research Assistant**, High Performance Computer Architecture & Networks (HPCAN) Laboratory, Sharif University of Technology, Tehran, Iran.
- 2012–2015 **Teaching Assistant**, Sharif University of Technology, Tehran, Iran.
Electrical Circuit, Numerical Methods, and Fundamentals of Electrical and Electronical Circuits.

Publications

- ISCA'21 **BlockMaestro: Enabling Programmer-Transparent Task-based Execution in GPU Systems.**
Amirali Abdolrashidi, **Hodjat Asghari Esfeden**, Ali Jahanshahi, Kaustubh Singh, Nael Abu-Ghazaleh, and Daniel Wong. The 58th International Symposium on Computer Architecture (ISCA), June 2021.

- MICRO'20 **BOW: Breathing Operand Windows to Exploit Bypassing in GPUs.**
Hodjat Asghari Esfeden, Amirali Abdolrashidi, Shafiur Rahman, Daniel Wong, and Nael Abu-Ghazaleh.
 The 53rd Annual IEEE/ACM International Symposium on Microarchitecture (MICRO), October 2020.
- CAL'19 **Locality-aware GPU Register File.**
 Hyeran Jeon, **Hodjat Asghari Esfeden**, Nael Abu-Ghazaleh, Daniel Wong, and Sindhuja Elango.
 IEEE Computer Architecture Letters (CAL), November 2019.
- ASPLOS'19 **CORF: Coalescing Operand Register File for GPUs.**
Hodjat Asghari Esfeden, Farzad Khorasani, Hyeran Jeon, Daniel Wong, and Nael Abu-Ghazaleh.
 The 24th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), April 2019.
- MICRO'18 **In-Register Parameter Caching for Dynamic Neural Nets with Virtual Persistent Processor Specialization.**
 Farzad Khorasani, **Hodjat Asghari Esfeden**, Nael Abu-Ghazaleh, and Vivek Sarkar.
 The 51st Annual IEEE/ACM International Symposium on Microarchitecture (MICRO), October 2018.
- ISCA'18 **RegMutex: Inter-Warp GPU Register Time-Sharing.**
 Farzad Khorasani, **Hodjat Asghari Esfeden**, Amin Farahani, Nuwan Jayasena, and Vivek Sarkar.
 The 45th International Symposium on Computer Architecture (ISCA), June 2018.
- DAC'17 **RIC: Relaxed Inclusion Caches for Mitigating LLC Side-Channel Attacks.**
 Mehmet Kayaalp, Khaled N. Khasawneh, **Hodjat Asghari Esfeden**, Jesse Elwell, Nael Abu-Ghazaleh, Dmitry Ponomarev, and Aamer Jaleel.
 The 54th Design Automation Conference (DAC), June 2017.

Honors and Awards

- 2020 **Outstanding Teaching Assistant Award and Distinguished Teaching Award (honorable mentions) for teaching CS161 "Design and Architecture of Computer Systems", UC Riverside.**
- 2015 **Dean's Distinguished Fellowship, UC Riverside.**
- 2010 **Ranked 17th, among more than 100,000 applicants in the nationwide university entrance exam for undergraduate students in Mathematics..**
- 2010 **Ranked 40th, among more than 100,000 applicants in the nationwide university entrance exam for undergraduate students in Pure English..**

Professional Activities

External Review Committee Member, *56th and 57th Design Automation Conference (DAC) 2019-2020, ACM Transactions on Embedded Computing Systems (TECS), Hardware and Architectural Support for Security and Privacy (HASP) 2020, Transactions on Computers (TC).*

Skills & Abilities

Natural Languages	Persian (native), English (fluent), and Arabic (familiar).
Programming Languages	C, C++, SYSTEMVERILOG, PYTHON, JAVASCRIPT, ASSEMBLY, VERILOG HDL
Software and Design Tools	SOOT, GIT, LATEX, SYNOPSIS EDA TOOLCHAIN, ALTERA QUARTUS, HSPICE
Architectural Simulators	GPGPUSIM, GEM5, MODELSIM, CACTI, M-SIM