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Hodjat Asghari Esfeden

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Education

Sep'15–Present

University of California, Riverside
Ph.D. Computer Science
M.Sc. Computer Science (2017), GPA: 3.91/4.0
Advisor: Professor **Nael Abu-Ghazaleh**
Research Area: Computer Architecture

- GPU Architecture/Compiler Solution Design
- Efficient GPU Utilization for Machine Learning Purposes

Relevant Courses: Advanced Computer Architecture, GPU Architecture & Programming, Compiler Construction, High Performance Computing, Machine Learning

Sep'10–Aug'15

Sharif University of Technology, Tehran, Iran
B.Sc. Computer Engineering (2015)
Thesis: Implementation of Two-level RR Warp Scheduling and Dynamic Warps on GPGPUSim
Advisor: Professor **Hamid Sarbazi-Azad**

Experience

- **Hardware Engineering Intern** Summer 2019
  Google LLC, Sunnyvale, CA: Developing a python-based RISC-V processor verification platform.
- **Instructor** Winter and Spring 2019
  CS161: Design and Architecture of Computer Systems, UC Riverside.
- **Teaching Assistant**
  Design and Architecture of Computer Systems, Intermediate Data Structures and Algorithms — UC Riverside Spring 2018
- **Training and Research Assistant**
  Institute for Research in Fundamental Sciences (IPM.), Tehran, Iran. Apr. 2014 - June 2015

Publications

- ***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.
- ***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).
- ***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.
- ***RegMutex: Inter-Warp GPU Register Time-Sharing***
  Farzad Khorasani, **Hodjat Asghari Esfeden**, Amin Farmahini-Farahani, Nuwan Jayasena, and Vivek Sarkar.
  The 45th International Symposium on Computer Architecture (ISCA), June 2018. *Acceptance rate: 16.9%*
- ***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.

Awards, Honors, and Scholarships

- **Dean's Distinguished Fellowship**, UCR, 2015
- **Ranked** 17^{th} among more than 100,000 applicants in the nationwide university entrance exam for undergraduate students in Mathematics, 2010.
- **Ranked** 40^{th} among more than 100,000 applicants in the nationwide university entrance exam for undergraduate students in Pure English, 2010.

Technical Skills

- **Languages:** C, C++, Python, Assembly, Verilog HDL
- **Software and Design Tools:** Kir, Soot, Git, Latex, Synopsys EDA Toolchain
- **Architectural Simulators:** GPGPUSim, Gem5, ModelSim, CACTI, M-Sim