Fateme Shokouhinia

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Website, Google Scholar, LinkedIn

EDUCATION

SIMON FRASER UNIVERSITY (SFU)
M.Sc. in Computer Science
Sep 2021 - Aug 2024 | Burnaby , BC, Canada

AMIRKABIR UNIVERSITY OF TECHNOLOGY (AUT)
M.Sc. in Computer Engineering
Sep 2019 - July 2021 | Tehran , Iran

SHARIF UNIVERSITY OF TECHNOLOGY (SUT)
B.Sc. in Computer Engineering
Sep 2014 - Feb 2019 | Tehran, Iran

SKILLS

Programming
Experienced:
• C, C++, Python, VHDL and Verilog
Familiar:
• Matlab, Golang, HTML/CSS
System Simulation Tools:
• Gem5, ZSim, Ramulator-PIM, DAMOV
Circuit Simulation Tools:
• Hspice, Pspice, Proteus
Others
• Scripting, Git
• Unix/Linux/Windows

COURSEWORK

- Basic/Advanced Computer Architecture
- Test and Testable Design
- Several System Design Courses and Labs
- Basic/Advanced Object-Oriented Programming
- Operating Systems
- Basic/Advanced Computer Networks
- Multimedia Systems (Included Image Processing in Matlab)

AWARDS

• Several **Graduate Fellowships** and **Scholarships** from SFU (2021 - 2024)
• Ranked 1st in master's class at AUT, with a GPA of 19.49/20 (2019)

PUBLICATIONS

- Elham Cheshmikhani, Fateme Shokouhinia and Hamed Farbeh, 2024, "A Low-Cost Fault-Tolerant Racetrack Cache Based on Data Compression," in IEEE TCAS II: Express Briefs, DOI.
- Meisam Abdollahi, Mohammad Baharloo, Fateme Shokouhinia, and Masoumeh Ebrahimi, 2021, "RAP-NoC: Reliability Assessment of Photonic Network-on-Chips, A simulator". In Proceedings of ACM NANOCOM 21, DOI.

WORK EXPERIENCE

RESEARCH ASSISTANT | Simon Fraser University, Burnaby, BC | Supervisor: Alaa Alameldeen | Sep 2021, present

- Reliability and Performance Improvement in Processing-In-Memory (PIM) Applications.
- Used DAMOV benchmark suite (based on ***C and C++***) for our design which combines ZSIM and Ramulator-PIM.
- Addressing Performance and Reliability Challenges in PIM (currently preparing for conference submission).

RESEARCH ASSISTANT | Amirkabir University of Technology, Tehran, Iran | Supervisor: Hamed Farbeh | Sep 2019 - July 2021

- Reliability Improvement in Domain-Wall based Cache Memories using *Data Compression*.
- Used Gem5 simulator (based on ***C, C++, and Python***) and SPEC CPU 2006 benchmark suite, enhancing the MTTF of the cache.
- This work was published in IEEE TCAS II: Express Briefs: Link.

STUDENT RESEARCHER Institute for Research in Fundamental Sciences, Tehran, Iran | Feb 2019 - July 2019

- Developed an Open Source Analytical Simulator to evaluate the reliability of different 2D optical network-on-chip architectures and data traffic.
- Used ***Python*** as the main programming language. The simulator can be found on my Github.
- This work was published in Proceedings of ACM NANOCOM '21: Link.

TEACHING ASSISTANT Simon Fraser University, Burnaby, BC

Course Name	Instructor(s)
Introduction to Computer Systems	Prof. A. Alameldeen, Prof. A. Shriraman
Computer Simulation and Modelling	Prof. A. Alameldeen
VLSI Systems Design	Prof. A. Ahari Kaleibar

PROJECTS

- Designed a Mini-MIPS Processor, simulating and testing a pipeline processor using ***Verilog*** for the Computer Architecture course at SUT.
- Enabled temperature reading using Arduino-Uno for automation purposes for Hardware Lab at SUT.