Fateme Shokouhinia

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Website, Google Scholar, LinkedIn

EDUCATION

SIMON FRASER UNIVERSITY (SFU)
M.Sc. in Computer Science
Sep 2021 - Dec 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

TEACHING ASSISTANT Simon Fraser University, Burnaby, BC | May 2022, May 2025

Course Name	Instructor(s)
Data Structures/Programming	Prof. J. Edgar
Introduction to Computer Systems	Prof. A. Alameldeen, Prof. A. Shriraman
Computer Simulation and Modelling	Prof. A. Alameldeen
VLSI Systems Design	Prof. A. Ahari Kaleibar

RESEARCH ASSISTANT | Simon Fraser University, Burnaby, BC | Supervisor: Alaa Alameldeen | Sep 2021, Dec 2024

- ***Achieved Performance Improvement*** in Processing-In-Memory (PIM) Applications by 23% using ***Value Prediction***.
- Used DAMOV benchmark suite (based on ***C and C++***) for our design.
- Currently preparing for conference submission.

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

- ***Achieved Reliability Improvement*** in Domain-Wall based Cache Memories by 60% using ***Data Compression***.
- Used Gem5 simulator (based on ***C, C++, and Python***) and SPEC CPU 2006 benchmark suite.
- 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.

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.