

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, PRESENT

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

- **Reliability and Performance Improvement** in Processing-In-Memory (PIM) Applications.
- Used DAMOV benchmark suite (based on **C** and **C++**) for our design.
- 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](#).

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.