Behrooz Zarebavani

Sharif University of Technology - Department of Electrical Engineering

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Education

- **M.Sc.: *Sharif University of Technology - Department of Electrical Engineering***
  - GPA: 17.95/20 (4/4 in WES scale)   Tehran, Iran, 2017–2019
- **B.Sc.: *Amirkabir University of Technology - Department of Electrical Engineering***
  - GPA: 17.45/20 (3.72/4 in WES scale)   Tehran, Iran, 2013–2017
- **High School: National Organization for Development of Exceptional Talents** Mathematics-physics diploma
  - GPA: 19.34/20 (4/4 in WES scale)   Mazandaran, Iran, 2009–2013

Research Interest

- Parallel Processing
- Distributed Systems
- Machine Learning
- Graphical Models

Publication

- B. Zarebavani, F. Jafarinejad, M. Hashemi, and S. Salehkaleybar, "cuPC: Cuda-based parallel pc algorithm for causal structure learning on gpu," IEEE Transactions on Parallel and Distributed Systems (TPDS), 2019.
  - C/C++, R, Parallel Computing, Graphical Model Learning   Sharif University of Technology, 2018

Language Skills

- Persian: Native
- English: Fluent
  - TOEFL: 110 - Reading: 29, Listening: 30, Speaking: 23, Writing: 28
  - GRE: Quantitative Reasoning: 170, Verbal Reasoning: 156, Writing: 3.5

Honors and Awards

- **Top 0.1**% in nation-wide University Entrance Exam for Master of Science. Among more than 60000 participants students   2017
- **Qualified** for double-major program (EE and CE) at Amirkabir University of Technology   2015
- **Top 0.1**% in nation-wide University Entrance Exam for Bachelor of Science. Among more than 350000 participants students   2013

Selected Academic Courses

o Parallel Processing	20/20	o Data Struct. and Algorithms	17.2/20
o Distributed Systems	18.3/20	o Theory of Learning	17.1/20
o Causal Inference	18.7/20	o ACA	17.8/20
o Computer Networks	18.3/20	o VLSI	16.7/20
o Statistical learning	17.7/20	o Advanced Systems Programming	20/20

Academic Projects

o **M.Sc. Thesis: Parallel Implementation of Peter-Clark (PC) Algorithm for Causal Structure Learning**
  - Supervised by Dr. M. Hashemi and Dr. S. Salehkaleybar. Project: Creating a novel approach to parallelize the Peter-Clark(PC), a computationally intensive algorithm, using the CUDA framework.
  - CUDA, R, C/C++, Graphical Model Learning,   Sharif University of Technology, 2019

o **B.Sc. Capstone: Design of a Smart Irrigation System To Control The Amount Of Water Usage**
  - Supervised by Prof. S.A. Motamedi. Project: Creating an IOT platform to increase efficient irrigation and reduce human intervention.
  - C/C++, ARM, Arduino, Zigbee   Amirkabir University of Technology, 2017

o **Price Forecasting for 10 Valuable Metals (Fanap Project).**
  - Python, Statistical Learning   Sharif University of Technology, 2018

o **Implementation of Inverted Index Algorithm for Words Searching in a Collection of Documents**
  - C/C++, Qt, Data Structure   Amirkabir University of Technology, 2016

o **Implementation of Fast FFT Using CUDA.**
  - C/C++, CUDA API, GPU, Parallel Processing   Sharif University of Technology, 2018

o **Implementation of Optical Flow Algorithm on FPGA.**
  - Matlab, Verilog, FPGA, ModelSim,VLSI   Sharif University of Technology, 2018

o **Implementation of a Neural Network for Digits Classification on FPGA.**
  - Matlab, Verilog, FPGA, ModelSim, VLSI   Sharif University of Technology, 2018

o **Implementation of Finite-State Machine to Find a Word Using Graph**
  - Java, Data Structure   Amirkabir University of Technology, 2016

o **Implementation of Paxos Algorithm Using Python.**
  - Python, Distributed Algorithms   Sharif University of Technology, 2018

o **Emulation of the Bellman-Ford Routing Algorithm Using Python**
  - Python, Telecommunication Networks   Amirkabir University of Technology, 2016

o **Implementation of Real Time Face Recognition App with OpenCV using Eigenfaces Method**
  - Python, OpenCV, Advanced Systems Programming   Amirkabir University of Technology, 2016

o **Implementation of 4 Line Super-Scaler Processor.**
  - Matlab, Verilog, FPGA, ModelSim, ACA   Sharif University of Technology, 2018

Skills and Expertise

o **Programming:** C/C++, Python, R, Verilog, Matlab, Java, Knime, LabView, CUDA, Qt, ModelSim, ISE
o **Hardware Expertise:** GPU, FPGA, Microprocessors

Work and Teaching Experiences

- **Implementation of a Monkey-Walking Corridor with Retractable Segments to Monitor the Rehabilitation of Spinal-Cord Injured Monkeys** **Royan Project, 2017**
- **Teaching Assistant** of "Machine Learning", Undergraduate course, with Dr. S. Salehkaleybar
  Sharif University of Technology, 2018
- **Teaching Assistant** of Distributed Systems, Graduate course, with Dr. S. Salehkaleybar
  Sharif University of Technology, 2019
- **Teaching Assistant** of "Machine Learning", Undergraduate course, with Dr. H. Mohammadzade
  Sharif University of Technology, 2019
- **Member** of Science Association in Amirkabir University of Technology's Electrical Engineering Scientific Association (EESA) and IEEE AUT Student Branch Amirkabir University of Technology 2014-2015

Hobbies

- Hiking, Fitness, Swimming, Traveling, Reading.

References

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