

# KOSSAR POURAHMADI-MEIBODI

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## EDUCATION

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**Ph.D., Computer Science**, University of Maryland, Baltimore County *Aug. 2021 - Present*  
Advisor: Dr. Hamed Pirsiavash

**Bachelor of Science, Computer Engineering**, University of Tehran *Sep. 2015 - Feb. 2020*  
Thesis: Energy consumption analysis of android applications by generating automatic test cases.  
Advisor: Dr. Fathiyeh Faghieh

## RESEARCH EXPERIENCE

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**Research Assistant**, University of Maryland, Baltimore County *Aug. 2021 - Present*  
Designing a hybrid neural network architecture that takes advantage of convolutional operations and self-attention mechanisms to combine local and global features for enhanced representation learning.  
PI: Dr. Hamed Pirsiavash, University of Maryland, Baltimore County

**Research Assistant**, Remote *Aug. 2020 - Jul. 2021*  
Proposed a simple baseline for low-budget active learning on image classification that does not require 1) the human-in-the-loop process of unlabeled data annotation and 2) a large initial labeled pool. The paper is under review.  
PI: Dr. Hamed Pirsiavash, University of Maryland, Baltimore County

**Research Assistant**, University of Tehran *Sep. 2019 - Mar. 2020*  
Analyzed the effects of bounding box size, aspect ratio, and center on bounding box regression performance of object detection models, and proposed a novel bounding box representation method using the polar coordinate system to improve the small object detection accuracy.  
PI: Dr. Mohammad Rastegari, Department of Computer Science, University of Washington  
and Dr. Mohammad Amin Sadeghi, Department of Computer Engineering, University of Tehran

**Bachelor's Research**, University of Tehran *Aug. 2019 - Feb. 2020*  
Generated test cases for android applications based on the control-flow graph of the source code in order to detect the missing deactivation of energy-related resources by static and dynamic analyses. This project received the **Best Undergraduate Project Award**.  
PI: Dr. Fathiyeh Faghieh, Department of Computer Engineering

**Research Intern**, Institute for Research in Fundamental Sciences, Iran *May 2018 - Nov. 2019*  
Implemented a hardware accelerator in HDL to speed up neural network training by sharing resources in a pipelined manner. The paper is accepted at **ISCAS 2020**.  
PI: Dr. Ahmad Khonsari, Department of High Performance Computing

**Research Intern**, University of Tehran *May 2017 - Aug. 2017*  
Collected and evaluated data from a multi-armed bandit problem for human characteristics studies.  
PI: Dr. Babak Nadjar Araabi, Pattern Recognition Laboratory

## PUBLICATIONS

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Reza Hojabr, **Kossar Pourahmadi\***, Parsa Nooralinejad\*, Kamyar Givaki\*, Ahmad Khonsari, Dara Rahmati, and M. Hassan Najafi. "TaxoNN: A Light-Weight Accelerator for Deep Neural Network Training." IEEE International Symposium on Circuits and Systems (ISCAS), 2020 (\* equal contribution)

## TEACHING EXPERIENCE

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**Teaching Assistant**, CMSC 341 - Data Structures, University of Maryland, Baltimore County  
*Aug. 2021 - Present*

Providing supporting sessions for course projects.

Dr. Mohammad Khashayar Donyaee, Department of Computer Science

**Teaching Assistant**, Data Structures and Algorithms, University of Tehran  
*Aug. 2019 - May 2020*

Provided supporting sessions for course projects and homeworks, evaluated laboratory write-ups, and graded exams.

Dr. Hesham faili and Dr. Fathiyeh Faghih, Department of Computer Engineering

## HONORS

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**Recipient**, Best Undergraduate Project Award, University of Tehran *Feb. 2020*

**Recipient**, Master's Fellowship Award, University of Tehran *Mar. 2019*

Exempted from the master's comprehensive entrance exam of the University of Tehran as an exceptionally talented student.

## SKILLS

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### Research Skills

Writing research papers

Collecting and evaluating data

Managing problems by proposing alternative experiments

Thinking flexibly about testing a new hypothesis for acceptance or rejection

### Technical Skills

Python, PyTorch, Tensorflow, Numpy, Pandas, scikit-learn, OpenCV

C, C++, Java, MATLAB, Verilog

Algorithm design, Object-oriented design, Embedded system design

## REFERENCES

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Hamed Pirsiavash, Ph.D.

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Department of Computer Science, University of Washington

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Mohammad Amin Sadeghi, Ph.D.

Department of Computer Engineering, University of Tehran

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