KOSSAR POURAHMADI-MEIBODI

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EDUCATION

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 Faghih

RESEARCH EXPERIENCE

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 Faghih, 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

Kossar Pourahmadi, Parsa Nooralinejad, Hamed Pirsiavash. "A Simple Baseline for Low-Budget Active Learning." *arXiv preprint arXiv:2110.12033*, 2021

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

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

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

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