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CURRICULUM VITAE

WHO AM I AND WHAT I LOOK FOR?

- Who I am: A top-notch algorithm developer and researcher in machine learning and computer vision, specifically deep learning.
- I look for:
    - o Being useful. Having a clear positive impact in my work
    - o Solving difficult algorithmic and scientific problems
    - o Working with capable people with similar interests

EDUCATION

B.A.   1993-1996   Tel-Aviv University, *Mathematics and Philosophy (Double Major). Graduated magna cum laude.*

Ph.D.   1999-2006   The Hebrew University, *Neural computation.* Doctoral dissertation: "Learning from weak representation using distance function and generative models". Supervised by Prof. Daphna Weinshall. The research domains were Machine Learning (specifically: distance function learning) and Computer Vision (objects and parts relations in object recognition)

EMPLOYMENT HISTORY

2021 – 2022   Algorithm developer at Saips (a Ford motor company)

R&D of perception systems for active safety and toward autonomous driving. In the main project we developed an IX-node system. This is a node equipped with multiple sensors (lidar, camera, radar), positioned in an urban junction, and communicating with autonomous shuttles to enable safe travel.
I was involved in the network development of the camera, and developed the main fusion/tracking module integrating the system.
Other projects in which I contributed include highway lane detection, vehicle onboard tracking, and anomality detection.

2016 - 2021   Senior lecturer in the Industrial Engineering and management department, Ben-Gurion University.

Research Interests: Computer vision, machine learning and its applications, deep learning. More specifically, the research includes:
- Deep learning applications: agricultural phenotyping, robotics, ultra sound, immunological problems
- Efficient inference in deep networks
- Deep network interpretation using graphical models

2013 - 2016   Senior Researcher at Microsoft Research, Israel

Research and development in computer vision and machine learning: Development of very fast classifiers, based on table ensembles and convolutional neural networks. Specifically these classifiers are used in the Xbox-1 console. Face recognition in RGB, depth and IR images. Hand pose recognition and estimation in project Prague (https://www.microsoft.com/en-us/research/project/gesture/)

2009 - 2013   Senior Research scientist at ATCI, GM research

Research and development in several areas: In pedestrian and children detection we developed a world-class system from both academic and product point of view, for detection in the rear camera. Other projects include: Object class recognition in a 2D+3D camera, visual tracking of rigid and non-rigid objects, fast nearest neighbor finding in high dimensions, target classification from Radar signal, speaker recognition from audio signal, and validation tools for vision-based automotive features.

2006 - 2009   Research scientist and architect at Intel

2006-2008 - Work in the Intelligent Grid Management project, in which machine learning methods were applied to achieve performance optimization of large computer grids. Used primarily reinforcement learning techniques to increase the grid's throughput. The algorithm I developed was found preferable over competing alternatives and was chosen for deployment.
2008-2009 - Work in the architecture group on hardware planning for 2015/2016 CPUs.

2003 - 2004   Teaching Assistant in the ICNC program, "Neural Networks 2".

2000 - 2002   Algorithms designer at Meicom. (Now part of CEVA).
Design and implementation of algorithms for image compression and real time encoding/decoding of digital video (mpeg2). Specifically, I developed

	algorithms for compression of .jpeg files (which are already compressed images), achieving further compression of 25%.
1998 - 2000	Computer science teacher at "Hacker software"
1996 - 1998	Teaching assistant at the Philosophy department, Tel-Aviv University. I taught the courses: Introduction to Logic, Advanced Logic, and Guided Reading 1.

SCIENTIFIC PUBLICATIONS

For a full publication list and paper downloading see the web site:

https://aharonbh.github.io/

Google Scholar h-index: 24 (retrieved November 2022)

Number of articles in Google Scholar: 53. Number of citations: 4739

Google Scholar Profile:
http://scholar.google.com/citations?user=x4GlT3IAAAAJ&hl=iw&oi=ao
A full list can be sent upon demand.

PATENTS

7 granted patents in the years 2012-2019.
A list is available at https://patents.justia.com/inventor/aharon-bar-hillel
A full list can be sent upon demand.