



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

Room 1 ,Ziskind Building  
on Thursday, Apr 02, 2015  
at 12:15

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OrCam

Machine Learning In Your Pocket

Abstract:

The field of Machine Learning has been making huge strides recently. Problems such as visual recognition and classification, that were believed to be open only a few years ago, now seem solvable. The best performers use Artificial Neural Networks, in their reincarnation as "Deep Learning", where huge networks are trained over lots of data. One bottleneck in current schemes is the huge amount of required computation during both training and testing. This limits the usability of these methods when power is an issue, such as with wearable devices.

As a step towards deeper understanding of deep learning mechanisms, I will show how correct conditioning of the back-propagation training iterations results in a much improved convergence. This reduces training time, providing better results. It also allows us to train smaller models, that are harder to optimize.

In this talk I will also discuss the challenges - and describe some of the solutions - in applying Machine Learning on a mobile device that can fit your pocket. The OrCam is a wearable camera that speaks to you. It reads anything, learns and recognizes faces, and much more. It is ready to help through the day, all with a simple pointing gesture. It is already improving the lives of many blind and visually impaired people.