



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

Room 1 ,Ziskind Building
on Thursday, Oct 22, 2015
at 12:15

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Deep learning on geometric data

Abstract:

The past decade in computer vision research has witnessed the re-emergence of "deep learning" and in particular, convolutional neural network techniques, allowing to learn task-specific features from examples and achieving a breakthrough in performance in a wide range of applications. However, in the geometry processing and computer graphics communities, these methods are practically unknown. One of the reasons stems from the facts that 3D shapes (typically modeled as Riemannian manifolds) are not shift-invariant spaces, hence the very notion of convolution is rather elusive. In this talk, I will show some recent works from our group trying to bridge this gap. Specifically, I will show the construction of intrinsic convolutional neural networks on meshes and point clouds, with applications such as finding dense correspondence between deformable shapes and shape retrieval.