THE WEIZMANN INSTITUTE OF SCIENCE

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

Room 1 ,Ziskind Building
on Thursday, Jun 04, 2015
at 12:15

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Algebraic, Sparse and Low Rank Subspace Clustering

Abstract:

In the era of data deluge, the development of methods for discovering structure in high-dimensional data is becoming increasingly important. Traditional approaches such as PCA often assume that the data is sampled from a single low-dimensional manifold. However, in many applications in signal/image processing, machine learning and computer vision, data in multiple classes lie in multiple low-dimensional subspaces of a high-dimensional ambient space. In this talk, I will present methods from algebraic geometry, sparse representation theory and rank minimization for clustering and classification of data in multiple low-dimensional subspaces. I will show how these methods can be extended to handle noise, outliers as well as missing data. I will also present applications of these methods to video segmentation and face clustering.