

*Department of Mathematics,
University of California San Diego*

Math 295 - Mathematics Colloquium

Prof. Daniel Robinson

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Scalable optimization algorithms for large-scale subspace clustering

Abstract:

I present recent work on the design of scalable optimization algorithms for aiding in the big data task of subspace clustering. In particular, I will describe three approaches that we recently developed to solve optimization problems constructed from the so-called self-expressiveness property of data that lies in the union of low-dimensional subspaces. Sources of data that lie in the union of low-dimensional subspaces include multi-class clustering and motion segmentation. Our optimization algorithms achieve scalability by leveraging three features: a rapidly adapting active-set approach, a greedy optimization method, and a divide-and-conquer technique. Numerical results demonstrating the scalability of our approaches will be presented.

Host: Philip Gill

Thursday, March 23, 2017

4:00 PM

AP&M 6402
