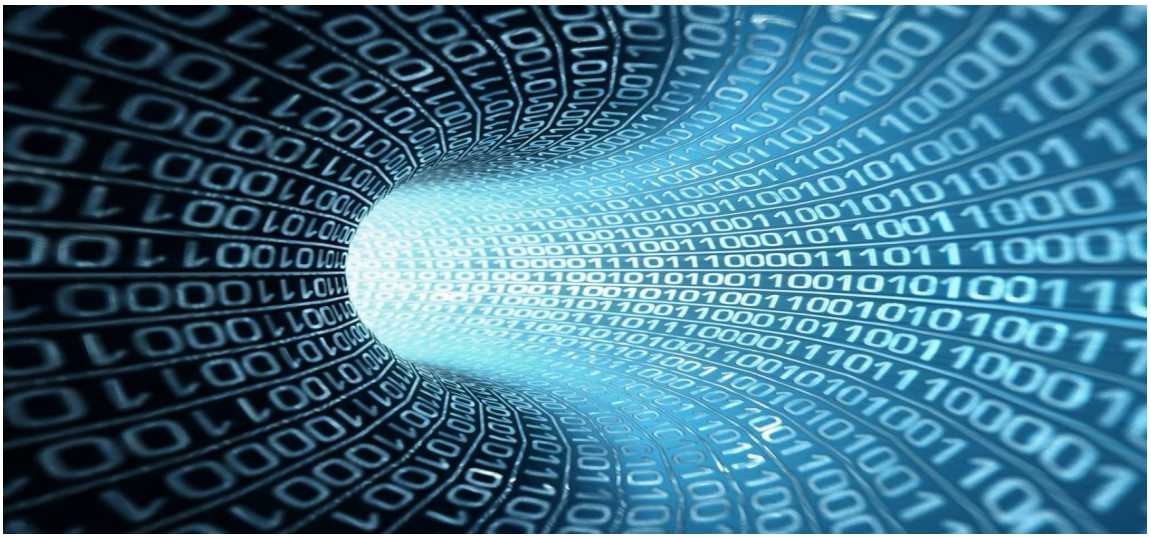
Recent Topics in "Big Data"

New Reading Group: Thursdays, 4:00–5:00 PM, ECOT 226

Available as APPM 7400 (1 credit)



Instructor: Dr. Daniel Kaslovsky, NSF Postdoctoral Fellow, NIST

Massive quantities of data are produced by a wide range of scientific disciplines and societal interactions. Researchers are responding to this "data deluge" with new theory and computational methods for acquiring and processing large, complex, high-dimensional data.

This reading course will **introduce students to the state of the art research in the analysis of modern data sets**. Recent and influential contributions to the literature will be read and discussed each week, allowing students to gain familiarity with the theoretical, computational, and statistical techniques crucial for the advancement of big data science.

Topics include:

- Sparse Representation
- Compressive Sensing
- Dictionary Learning
- Johnson-Lindenstrauss Lemma
- Randomized Algorithms
- Dimensionality Reduction
- Manifold Learning
- Signal & Image Processing

All backgrounds are welcome!

Introductory/Organizational Meeting: **January 24** – WITH PIZZA!

Email **kaslovsky@colorado.edu** to sign up.

`http://amath.colorado.edu/student/kaslovsky/APPM7400-SPR13`