Math 5490 – Final Project Information

Instructions:

- Work in groups of 1-4 students. Please email me by Friday March 24 with the names of the students in your group and the topic you intend to work on

- The deliverable is a final report of no more than 5 pages and your Python code.

Possible Projects:

1. Robust subspace recovery: Paper Read paper, implement method and run some experiments.

2. Random projection clustering: Paper Read paper, implement method and run some experiments.

3. Deep learning for image classification: Find an interesting dataset on Kaggle or elsewhere to apply deep image classification methods.

4. Deep learning for image segmentation: Similar to above

5. Nonnegative matrix factorization (NMF): Survey paper Read over survey and implement NMF for applications we used PCA for, such as image compression or facial recognition.

6. PCA-based audio compression (project outlined in course book).

7. Image denoising with graph-based least squares regression.

8. Image co-segmentation with graph-based learning.

9. Image segmentation with graph-based spectral clustering. Paper Read paper, implement method and experiment.