Weekly Report

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Outline
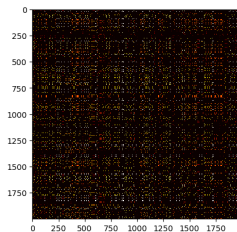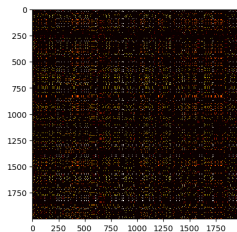
Results for simulated data matrix

Experiment settings

- $A_{M \times N}$, $M = N = 2000$
- Biclusters number $k = 15$
- Bicluster height m_i and width n_i subject to uniform distribution $U(50, 200)$
- Noise level $\sigma = 0.01 \times \max(A)$

Experiment results 100% on both precision and recall

(a) Ground truth

(b) Biclusters detected

Figure: Comparison of ground truth and detected biclusters

Methods

Score Function for Biclustering

▶

$$\langle x, y \rangle = \exp(-\frac{|x-y|^2}{2\alpha|x||y|})$$

▶ Use the inner product above to substitute for the co-variance

Biclustering

▶ Biclustering is a special case of clustering

▶ Biclustering is also called co-clustering

▶ Biclustering is also called block clustering

▶ Biclustering is also called two-mode clustering