ADHD fMRI Classification

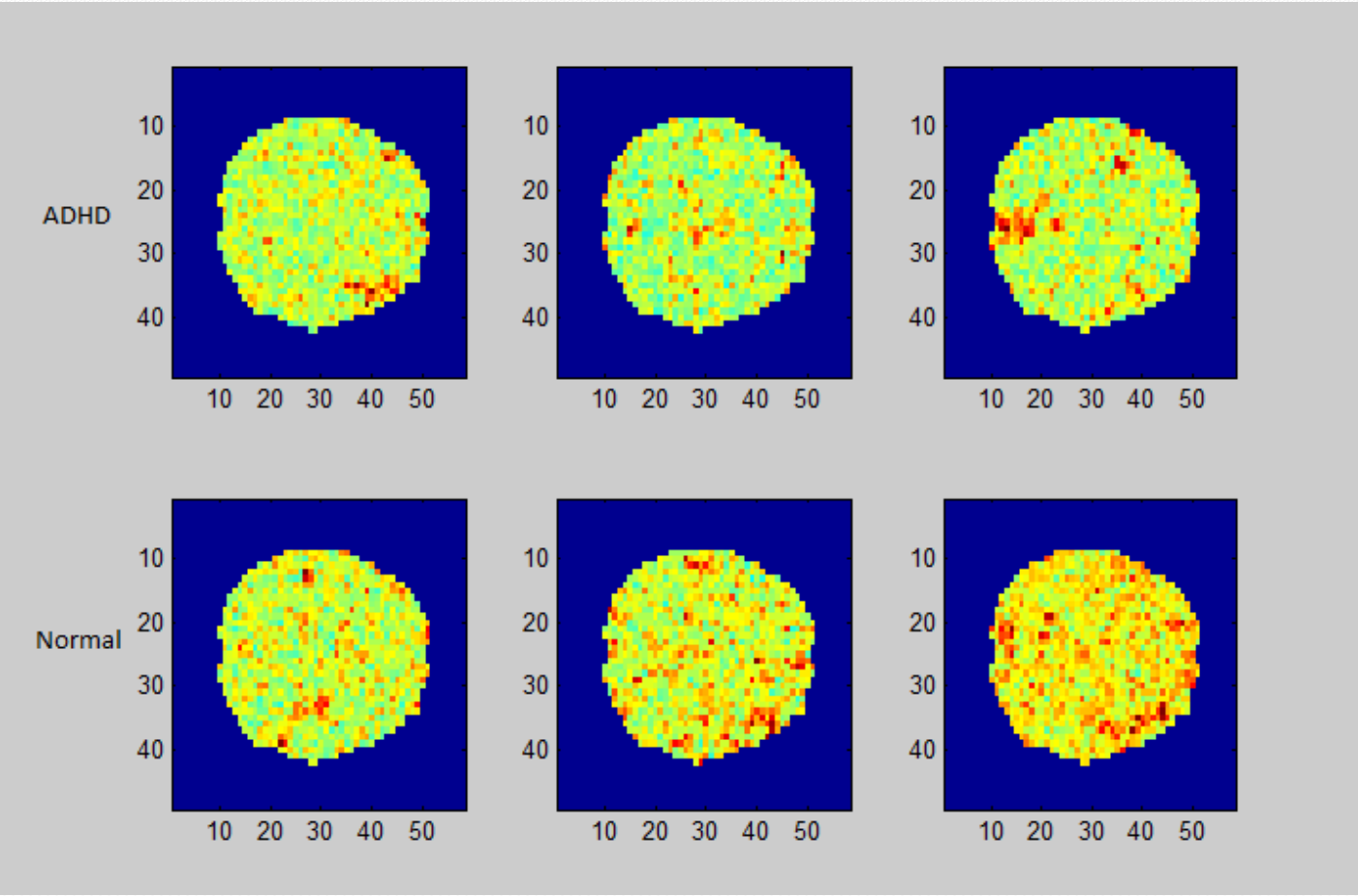
Week 4

Amy Ko

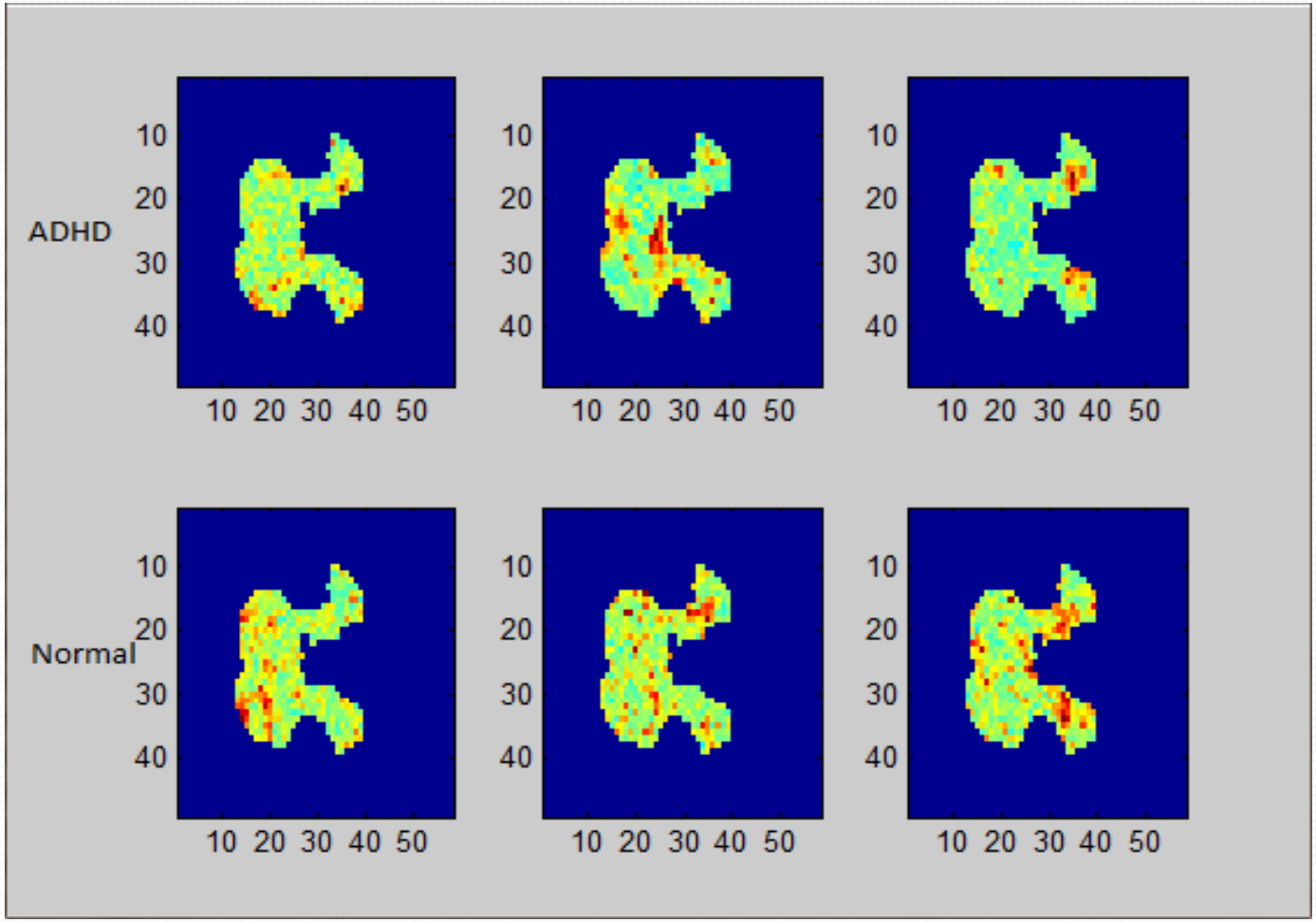
This Week

- Obtained complete dataset.
- Implemented Kendall's Coefficient of Concordance (KCC).
  - Zhu et al, 2007
  - 4-d brain data → 3-d KCC map
- Ran it on 1/10 of dataset.
- Got reduced feature vectors via PCA.

KCC Map, Z = 23



KCC Map, Z = 12



PCA

N x #voxels

Feature vector matrix



N x (N-2)

Feature vector matrix

- N = number of subjects = 83
- # voxels = 133,574

Next Week

- Classify using Fisher's Discriminant Analysis (FDA)
  - Separation = $\text{Variance}_{\text{between}}/\text{Variance}_{\text{within}}$
- Try different classification methods
  - SVM?
- Categorize according to gender and age