

REU Report Meeting Week 4



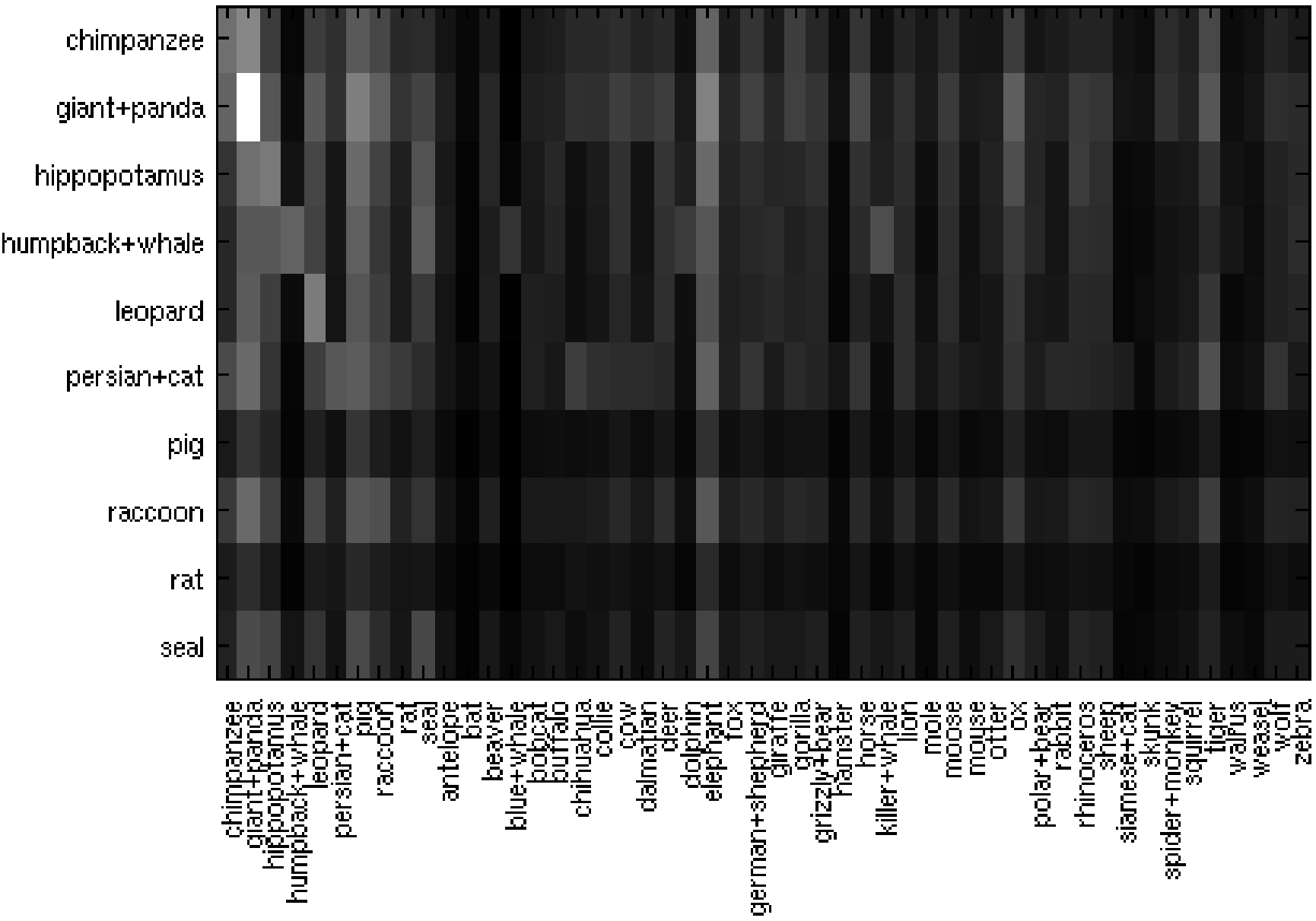
Patrick Hynes

Topic

- One shot recognition
 - Extending to Action recognition

Animals with Attributes





Caltech 101 Experiments

- Goal, compare results to Fei-fei, Fergus, Perona
- All 101 Categories
- Training set of 3,6,15 examples per class
- Testing set of 50 examples per class

Caltech 101 Images

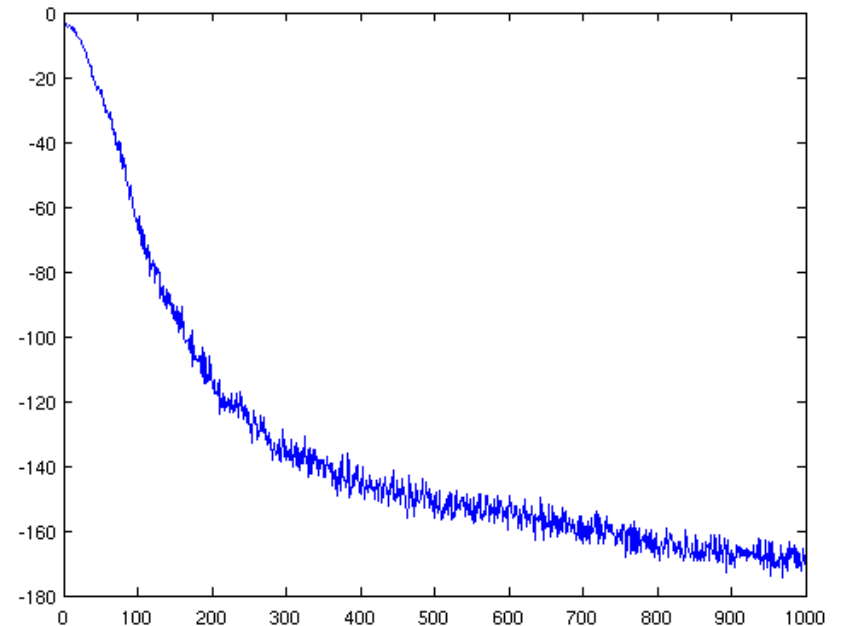
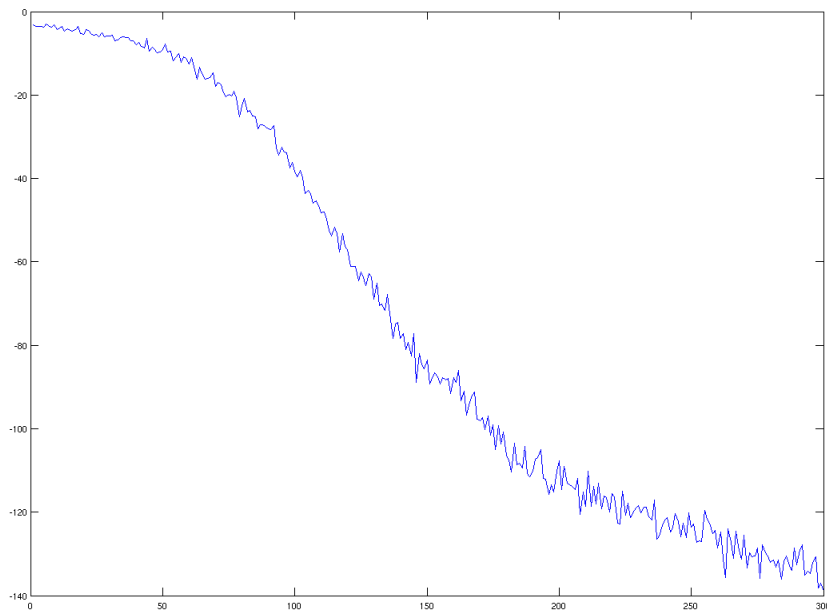


Some Results

- Working with Antonio to compare our results
- His code is using the same examples repeatedly, mine is choosing examples from each category randomly

Some Results

■ Optimization Function



Some Results

- Using PCA with 3 training examples
- 3 training examples over 300 optimization iterations, 1 microset 8.21% mean accuracy
- Using PCA over training and testing examples
- 3 examples 1000 iter. 1 microset 8.52% mean accuracy
- 3 examples 600 iter. 10 microsets 9.28%
- 6 examples 300 iter. 1 microset 10.37%

Areas to test and improve

- Experimenting with
 - different PCA data
 - number of microsets
 - Proper number of iterations for optimization
 - Increased one-shot repetitions in checking accuracy
 - Averaging results from various data