Semi-Supervised Expectation Maximization using Gaussian Mixture Models

Sheng Lundquist

Mixture Models

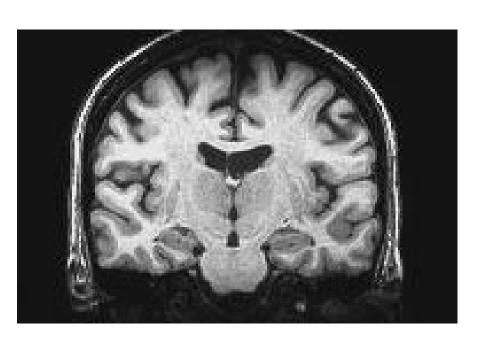
Implementation Details

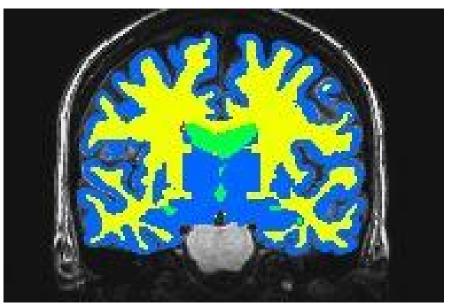
Use 7 images with provided ground truth

3 images as unlabeled data

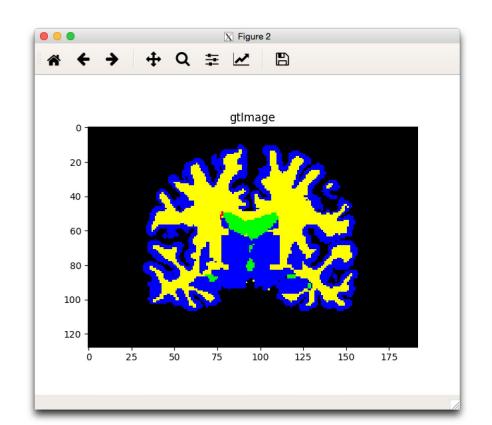
Data sample is a 5x5 patch extracted from all images with a stride of 1

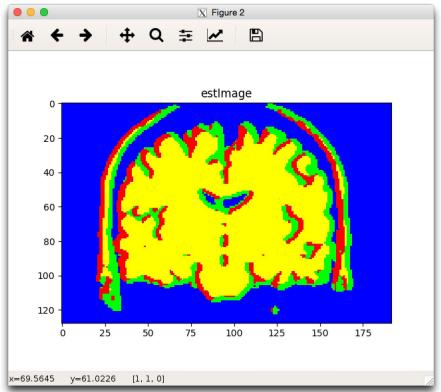
Input



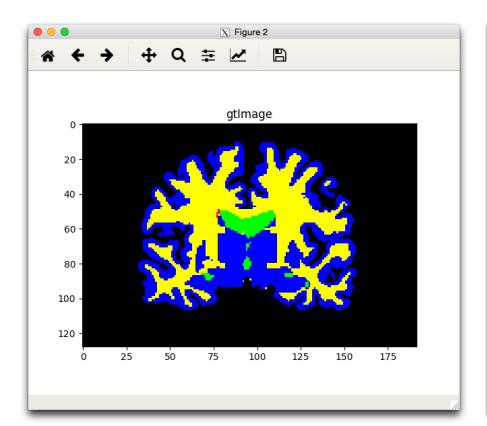


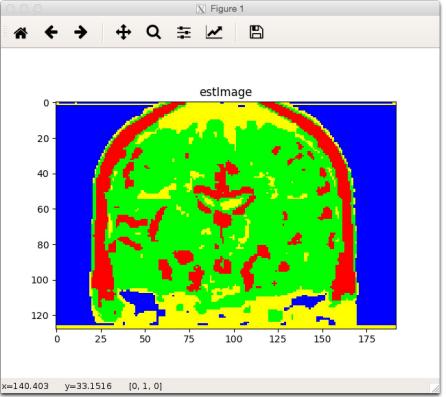
K-Means



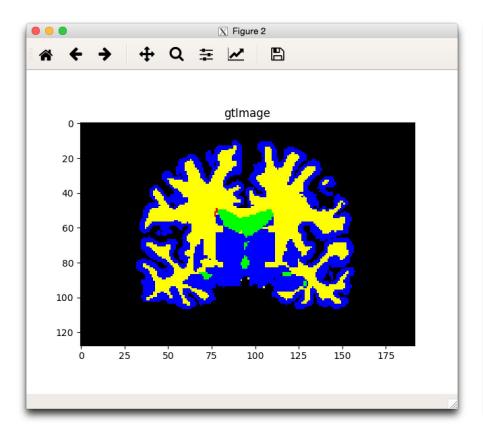


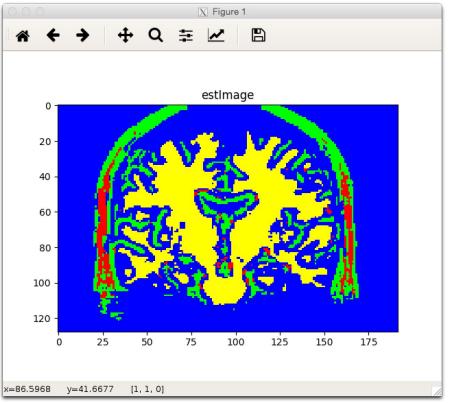
Unsupervised



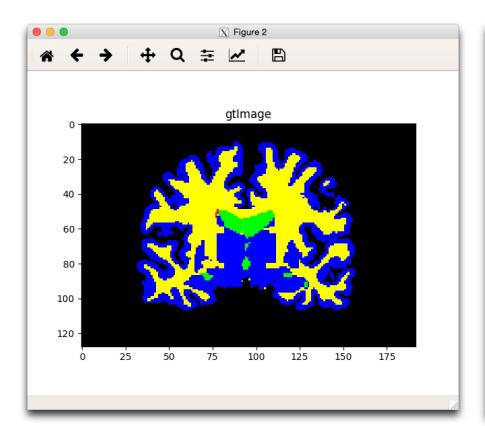


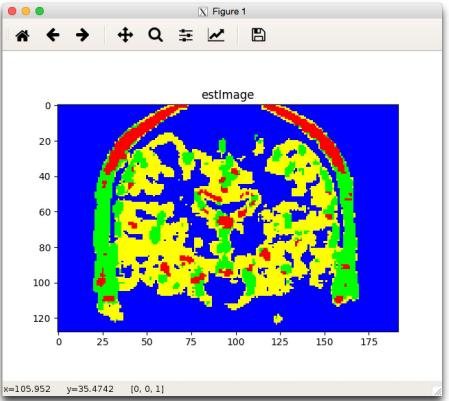
Fully Supervised





Semi-Supervised





How to improve

More clusters (plus classification)

Remove surrounding brain area from input data