Project Title:

Predicting Cognitive state of human through FMRI image.

Brief:

There are different case studies in which classifiers are trained to distinguish cognitive states such as:

(1) Whether the human subject is looking at a picture.
(2) Whether the subject is reading an ambiguous or non-ambiguous sentence.
(3) Whether the word the subject is viewing is a word describing food, people buildings, etc. (Predicting the word from Brain Image).

Challenges:

This learning problem provides an interesting case study of classifier learning from extremely high dimensional , extremely sparse (tens of training examples), noisy data.

Since we have the curse of dimensionality and less training data we will have to use different techniques on different classifiers (SVM,GNB…) to maximize the accuracy of the trained classifier.

Note – We have not described the project in great detail as we have chosen the project from the proposals given by you. If it is required in detail we can give it too.

Papers :

1. "Learning to Decode Cognitive States from Brain Images,"
2. "Classifying Instantaneous Cognitive States from fMRI Data,"
3. "Training fMRI Classifiers to Detect Cognitive States across Multiple Human Subjects ,"

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