**Approach 1 (ASU\_Primary\_Common)**

We represent out feature vector in 4 feature: compute expectation, variance, excess of signal distribution and signal to noise ration.

System was learned with weighted normal distribution GMM algorithm (stochastic expectation-maximization). All Train dataset was divided into 5 parts (KFold), and turned as GMM-UBM model (4 parts for learning, and 1 part for data adaptation). We describe our model with 1-2 Gaussian distribution, test and predict labels on «development set». Accuracy of the predictions, we have received with gmm-learning approximately ~90%, gmm-ubm ~94.7%

**Approach 2 (ASU\_Primary\_Flexible)**

Here we add new feature - range (difference between maximum and minimum values of signal) and use Approach 1. Accuracy on GMM: ~91, gmm-ubm ~ 92.5%