Feature selection + SVM learner

Comments on the illustrations below

- confidence intervals in the plots are based on 9-fold cross-validation and t-test with confidence level = 95%
- models in the first plot works with the full feature set (363 features) reduced only by the frequency threshold (values between 1 to 20)
  – data can be generated using the demo code svm.tuning.fr.R
- models in the second plot works similarly, but the base feature set is taken from the output of Lasso regression
  – data was generated by the demo code svm.fs-lasso.cry.R
  – the Lasso output is shown in feature-selection.lasso.cry
- the third plot shows SVM model with feature selection using the variable importance produced by AdaBoost; of course, getting the feature ranking based on the AdaBoost variable importance is a random process
  – data was generated by the demo code var-imp.ab.R
CRY -- cross-validated SVM models

pure SVM with tuned cost

average accuracy vs. feature frequency threshold

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CRY -- cross- validated SVM

with Lasso feature selection
Feature selection -- AdaBoost vs. random

SVM model, verb = cry

average accuracy (%) vs. feature set size

AdaBoost selection
random selection

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