ECEN649 Computer Project Report

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1 Introduction

In this project, we separate the task of recognizing the 'good-prognosis' and 'poor-prognosis' into three parts and developed the corresponding modules: feature selection (Exhaustive search, sequential forward search), error estimator (resubstitution, Leave-one-out cross-validation) and classification rules (Diagonal LDA, 3NN, Linear SVM) using Python 2.7.

2 Results

To illustrate our result we use the following tables:

Table 1: Exhautive Search using Resub.

	DLDA			3NN			LSVM		
	picked genes	est. errors	real errors	picked genes	est. errors	real errors	picked genes	est. errors	real errors
1 gene									
2 genes									
3 genes									

Table 2: Exhautive Search using LOOCV

	DLDA			3NN			LSVM		
	picked genes	est. errors	real errors	picked genes	est. errors	real errors	picked genes	est. errors	real errors
1 gene									
2 genes									
3 genes									

Table 3: Sequential Forward Search using Resub.

	DLDA			3NN			LSVM		
	picked genes	est. errors	real errors	picked genes	est. errors	real errors	picked genes	est. errors	real errors
1 gene									
2 genes									
3 genes									
4 genes									
5 genes									

Table 4: Sequential Forward Search using LOOCV

	DLDA			3NN			LSVM		
	picked genes	est. errors	real errors	picked genes	est. errors	real errors	picked genes	est. errors	real errors
1 gene									
2 genes									
3 genes									
4 genes									
5 genes									

3 Analysis

4 Python Code