贝叶斯分类器后续作业

1. 利用课件中的公式，分别生成鲈鱼（1类）和鲑鱼（2类）的10000个数值，利用每个类的5000个数值，画出类条件概率密度曲线，设计实验对第一讲中的鲑鱼和鲈鱼的分类问题进行仿真，要假设惩罚因子，制作可视化界面使惩罚因子和先验概率可调，实时看到后验概率曲线。(2组)
2. 模拟鱼的长度和光度进行二维二分类，并且可视化，分析实验结果。(2组)
3. 请在网上或其它文献源中查找Neyman-Pearson Criterion 的基本原理，\*并在MATLAB中仿真。Please look for the theory of Neyman-Pearson from web or other resources, and simulate in Matlab. (2组)
4. 请在网上或其它文献源中查找Minimax Criterion 的基本原理，\*并在MATLAB中仿真。Please look for the theory of Minimax Criterion from web or other resources, and simulate in Matlab. (2组)

二次型和线性分类器作业

1. 对CORK\_STOPPERS.XLS数据设计多类分类方法，求出每类的准确率。哪个特征或哪几个特征的组合分类性能最好？Please design classification algorithm for “CORK\_STOPPERS.XLS”. Which feature or group of features achieve best performance?

(4组)

1. 请对第五讲中5种不同的情况进行仿真（二维三类问题），要求仿照课件画出三类的类条件概率曲面，及投影到二维空间的同概率轨迹及决策曲线（直线）。请自己假定µ和∑，数据自己生成。在5种情况任选2种。Please simulate Case 1-Case 5 in L5 (suppose a 2-Dimension 3-Class problem). Please plot the class conditional probability surface, and the loci of constant probability, as well as decision boundaries which project into two dimensional feature spaces. (3组)
2. 重新看一下L2第21页求协方差矩阵的例子，尝试自己填写/编程计算/在MATLAB里用函数计算协方差矩阵，这三个答案一样吗？为什么? Please review the example of calculate the covariance matrix by numeration figuring up, programming and MATLAB function. Could you get the same solutions? Why? 请找资料证明：L2第20页的公式：∑=S-µµT Please prove the equation on Page 20, L2. (3组)
3. 如何检验一个样本列是否符合正态分布？请在第19题的基础上，求出某两列（特征）的均值和方差，自己按正态分布生成数据，分类准确率和源数据相比，有没有提高？How to verify a sample column following Normal distribution? Please get the means and the variances of two columns based on 19, and generate the data based on Normal distribution. Do you achieve better performance than those of source data? (3组)