Homework Assignment 4 (CS 470 only)

(100 points)

Assigned Date: Monday, December 07, 2009

Due Date: 4:00 PM Monday, December 14, 2009

Educational Goal

Become familiar with classification model construction and evaluation.

Requirements

- (30%) Design 10 instances of your choice, using the Naïve Bayes Example in the lecture Uncertainty (Slide 30) to construct the classification model. Note that the 10 instances should be selected in such a way to help you draw the ROC curve.
- (60%) Draw the ROC curve of this classification model (refer to the lecture Classifcation).
- (10%) Calculate the AUC (area under the curve) of the ROC curve you produce.

Submission Requirements

1. Must show your work to get the full credits.
2. Turn in the paper copy in class and soft copy of this assignment through your UMassOnline account at http://boston.umassonline.net/index.cfm. Submit the paper copy along with the cover page in class. Paper copy should be bound firmly together as one pack (for example, staple, but not limited to, at the left corner). 5 points will be deducted for unbounded homework.
3. Name your file with AI_ lastname_firstname_hw4. For example, student John Smith should name his file as AI_Smith_John_hw4.
4. No hard copies or soft copies results in 0 points.