CS 383 - Machine Learning

Assignment 5 - Support Vector Machines
Summer 2017
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1 Programming Questions

1.1 Support Vector Machines

Table 1 presents the required evaluation of suport vector machines.

Precision:	91.48%
Recall:	91.33%
F-Measure:	91.40%
Accuracy:	93.41%

Table 1: Evaluation for SVM classifier

1.2 Multi-Class Support Vector Machines

Table 2 presents the required evaluation of multi-class suport vector machines.

Method	Accuracy
One-vs-One	90.68%

Table 2: Multi-Class Evaulation

1.3 Confusion Matrix

Table 3 shows the confusion matrix for section 1.2.

	True Label		
	Class 1	Class 2	Class 3
Predicted Class 1	73.87%	3.11%	0.28%
Predicted Class 2	3.81%	9.04%	1.27%
Predicted Class 3	0.28%	0.56%	7.77%

Table 3: Confusion Matrix. Columns are true classes, Rows are predicted.

As we can see in this table, Class1-Class1, Class2-Class2 and Class3-Class3 bindings added up are the accuracy measure we had in section 1.2.
Another interesting thing that we can see is there is a lot of confusion between distinguishing between class 1 and class 2.