Decision Trees - Confusion Matrix

	0	1	2	3	4	5	6	7	8	9
0	736	142	13	24	12	5	9	9	38	12
1	103	781	8	32	6	12	9	5	28	16
2	3	3	934	7	4	23	5	9	6	6
3	16	13	16	770	41	26	31	64	10	13
4	5	1	3	40	839	45	15	14	18	20
5	7	6	9	11	99	821	4	12	22	9
6	8	10	11	35	19	25	807	57	9	19
7	13	14	5	52	25	9	140	654	16	72
8	34	19	12	3	9	19	2	1	882	19
9	23	30	9	2	22	9	8	9	70	818

True Label / Predicted Label
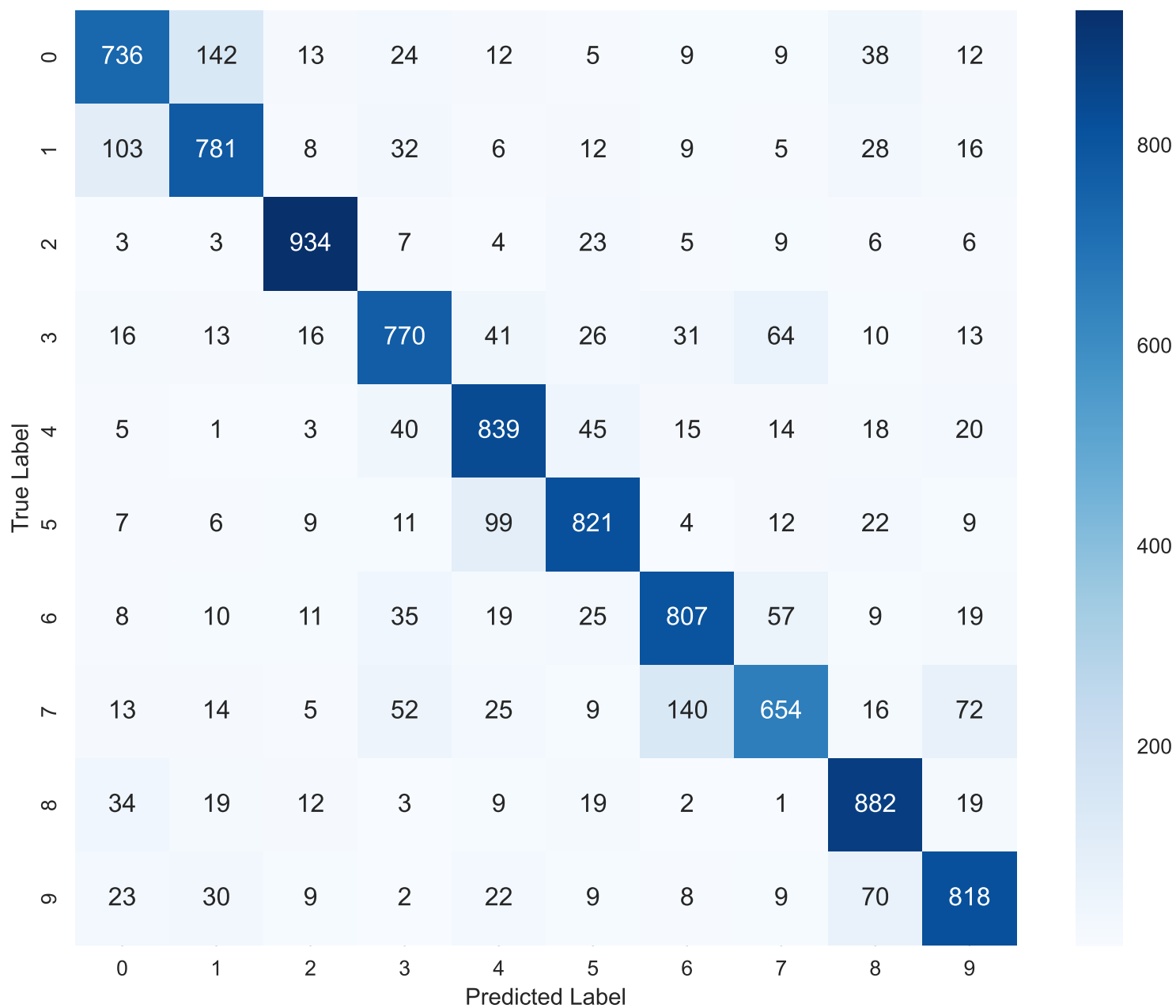
ROC Curves for DecisionTreeClassifier

- ROC of class 0, AUC = 0.86
- ROC of class 1, AUC = 0.88
- ROC of class 2, AUC = 0.96
- ROC of class 3, AUC = 0.87
- ROC of class 4, AUC = 0.91
- ROC of class 5, AUC = 0.90
- ROC of class 6, AUC = 0.89
- ROC of class 7, AUC = 0.82
- ROC of class 8, AUC = 0.93
- ROC of class 9, AUC = 0.90
- micro-average ROC curve, AUC = 0.89
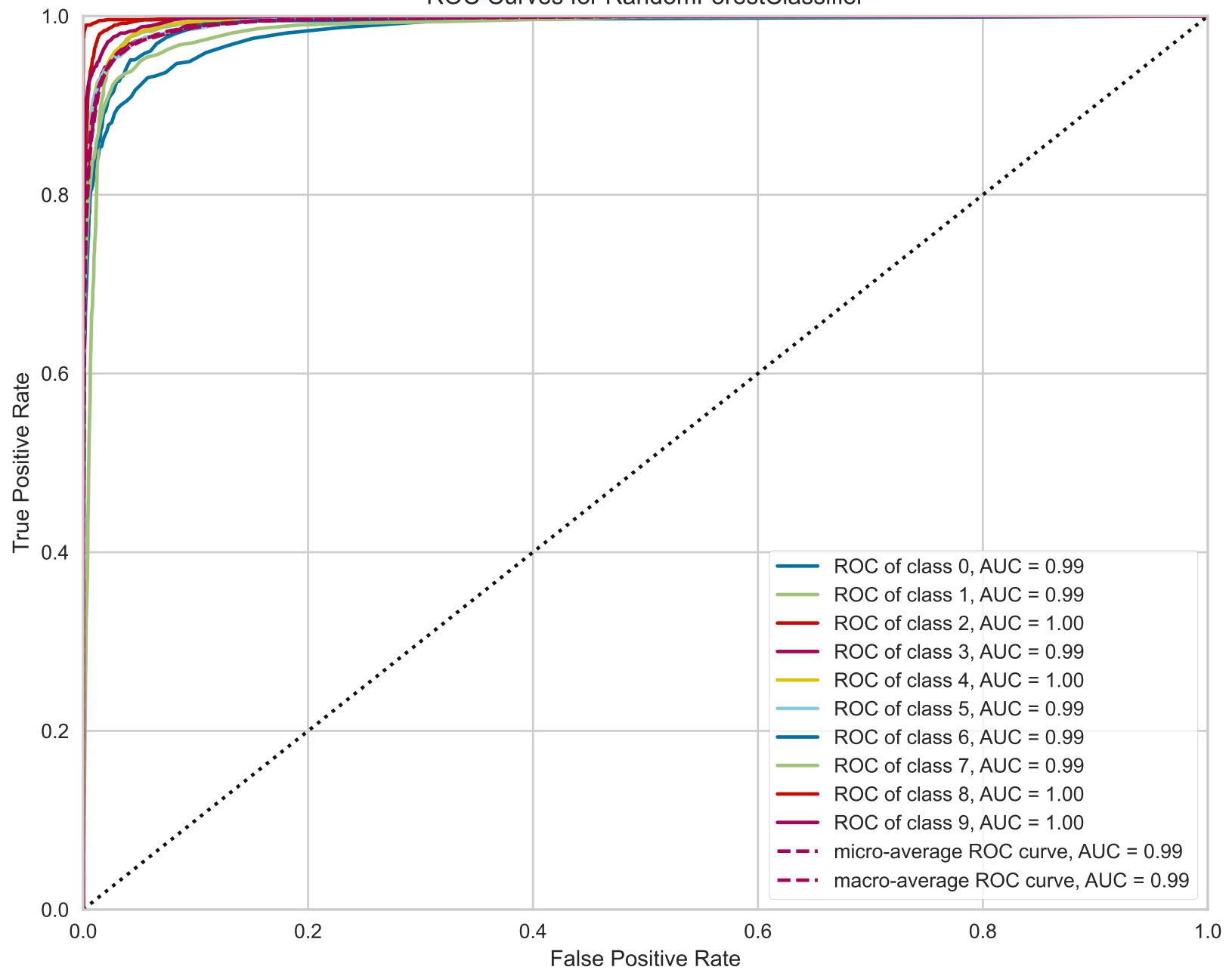- macro-average ROC curve, AUC = 0.89
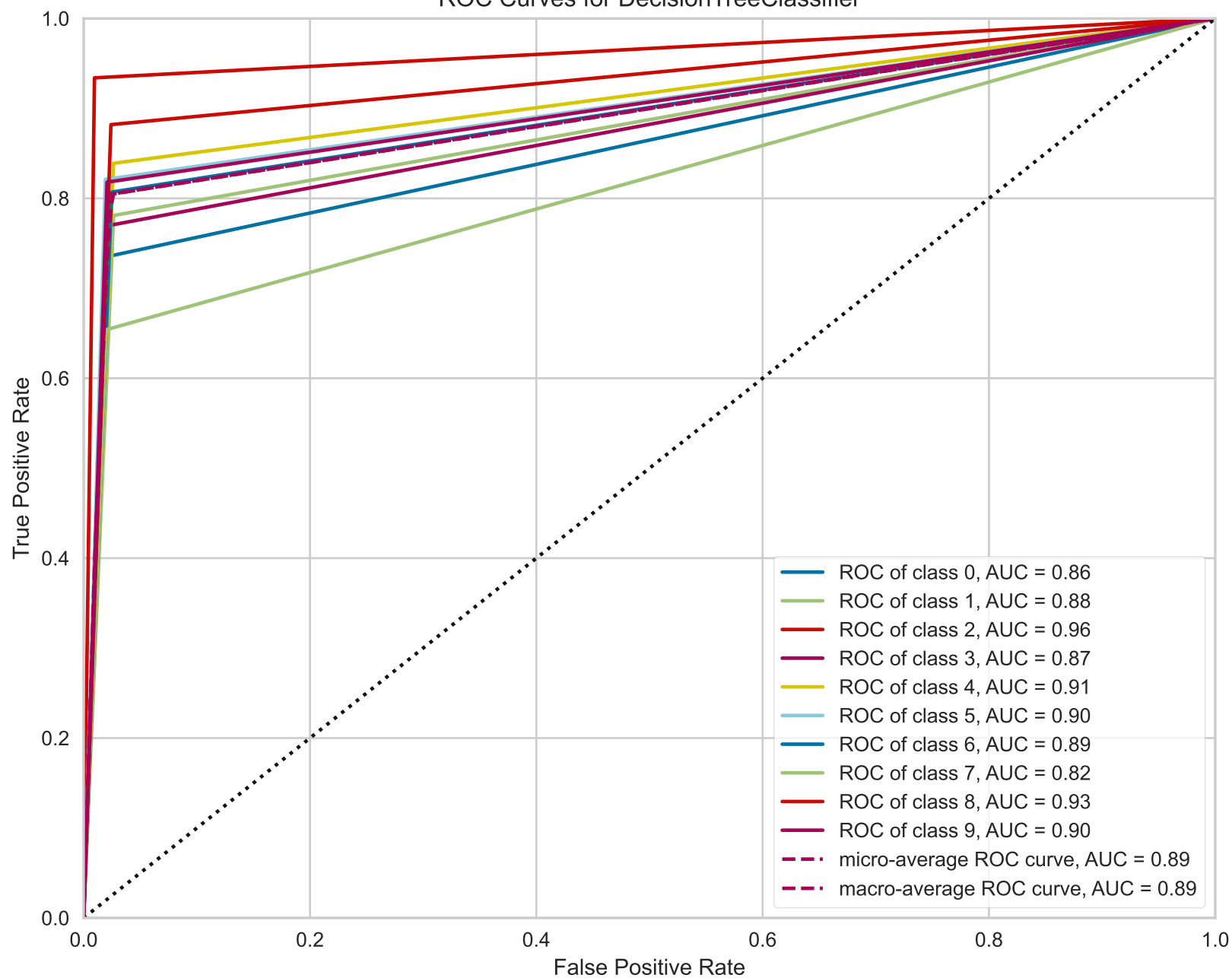
Model Metrics - Random Forest
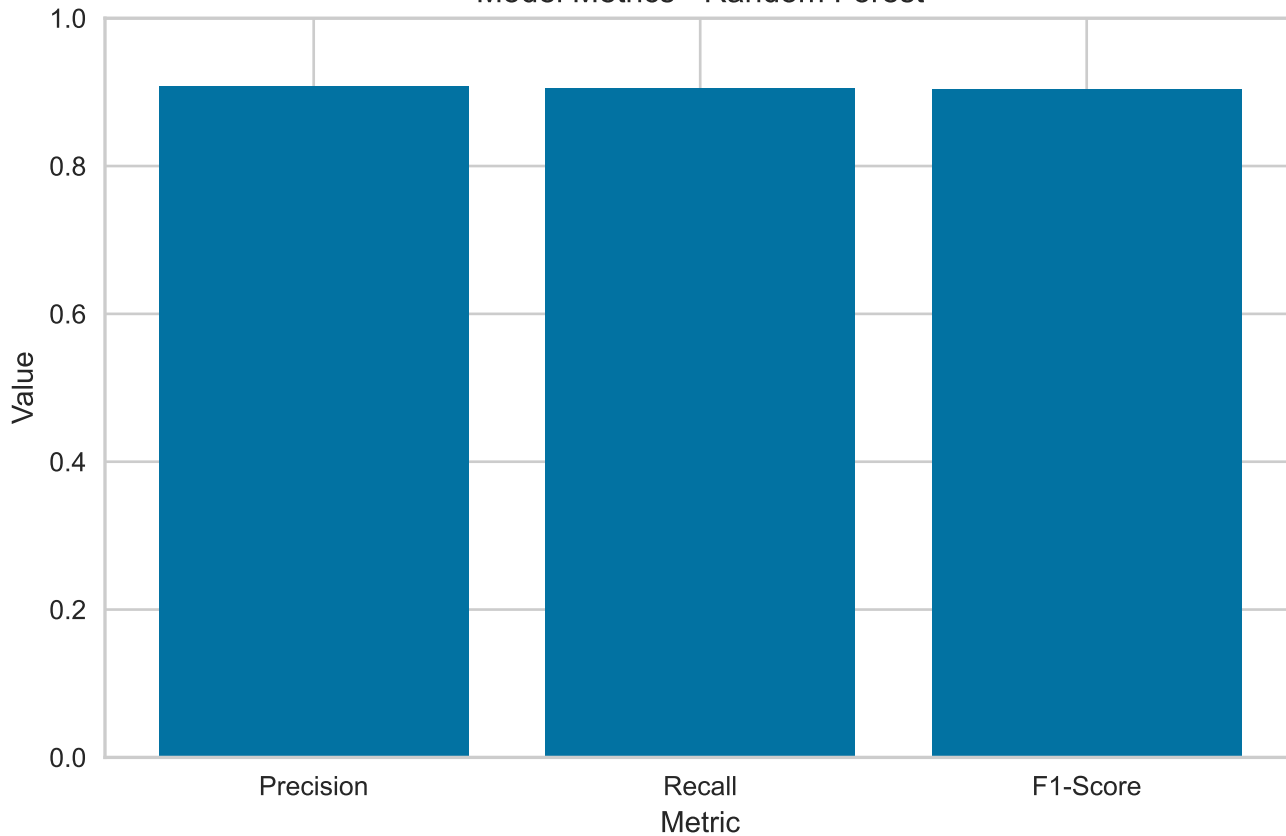
Random Forest - Confusion Matrix
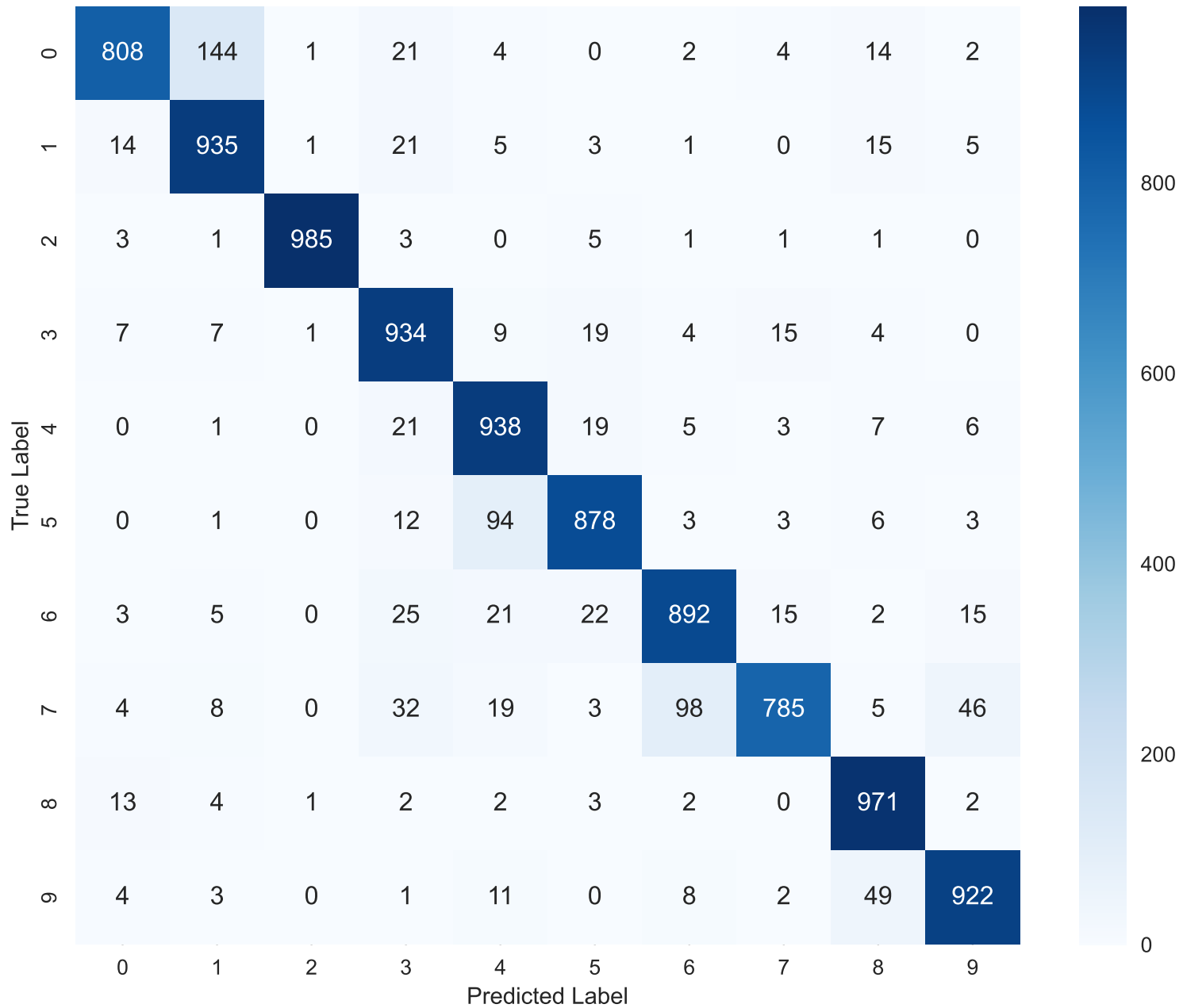
ROC Curves for RandomForestClassifier

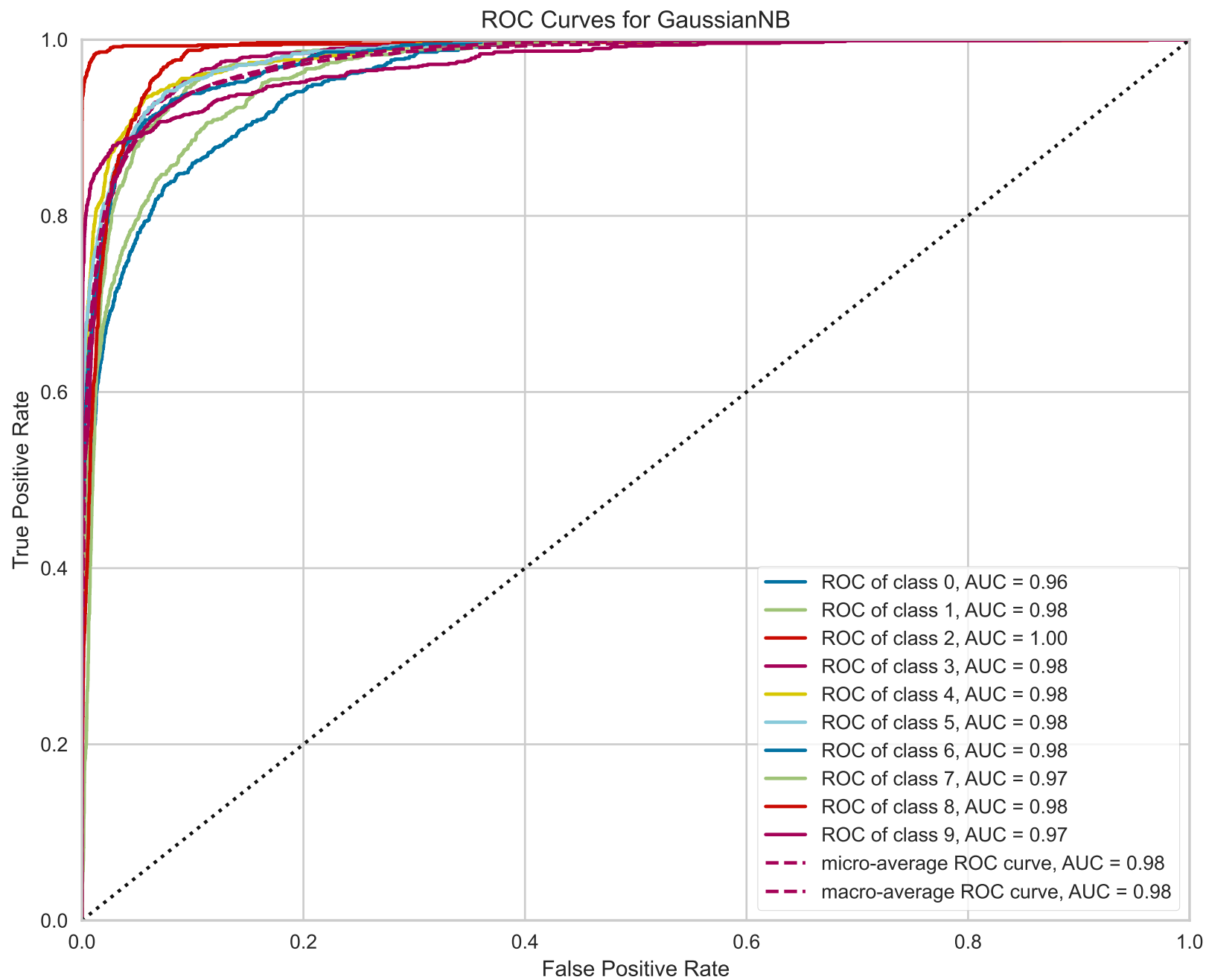|	
——	ROC of class 0, AUC = 0.99
——	ROC of class 1, AUC = 0.99
——	ROC of class 2, AUC = 1.00
——	ROC of class 3, AUC = 0.99
——	ROC of class 4, AUC = 1.00
——	ROC of class 5, AUC = 0.99
——	ROC of class 6, AUC = 0.99
——	ROC of class 7, AUC = 0.99
——	ROC of class 8, AUC = 1.00
——	ROC of class 9, AUC = 1.00
- - -	micro-average ROC curve, AUC = 0.99
- - -	macro-average ROC curve, AUC = 0.99

Model Metrics - Naive Bayes
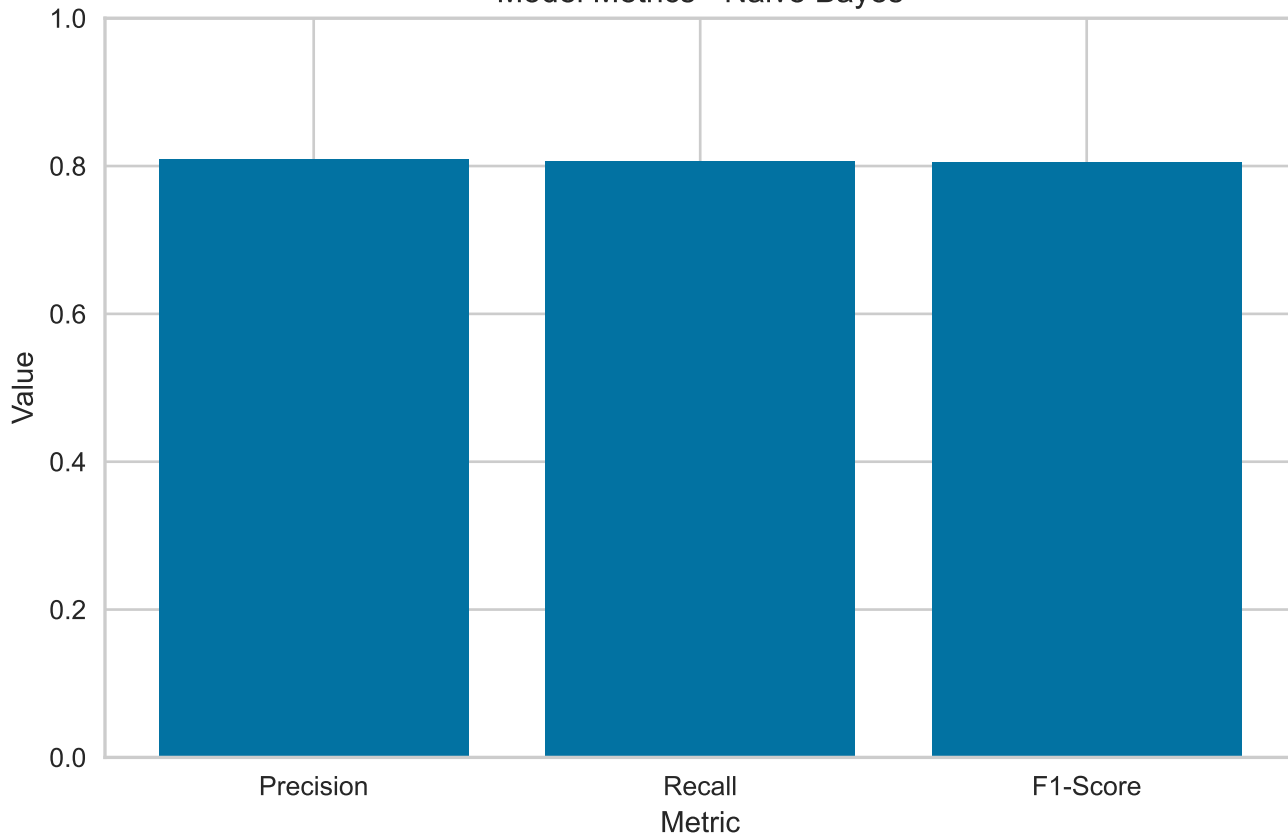
Naive Bayes - Confusion Matrix

ROC Curves for GaussianNB

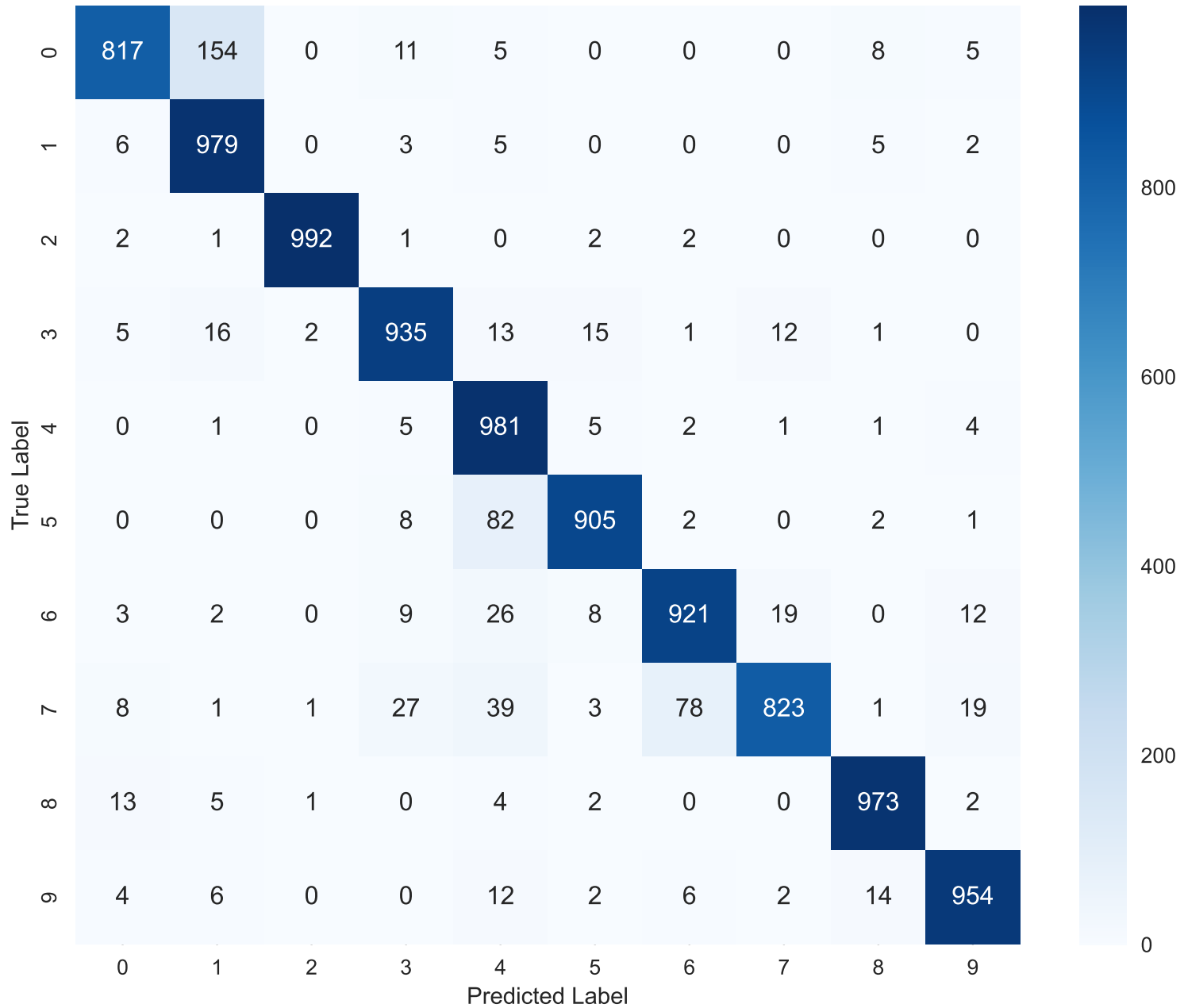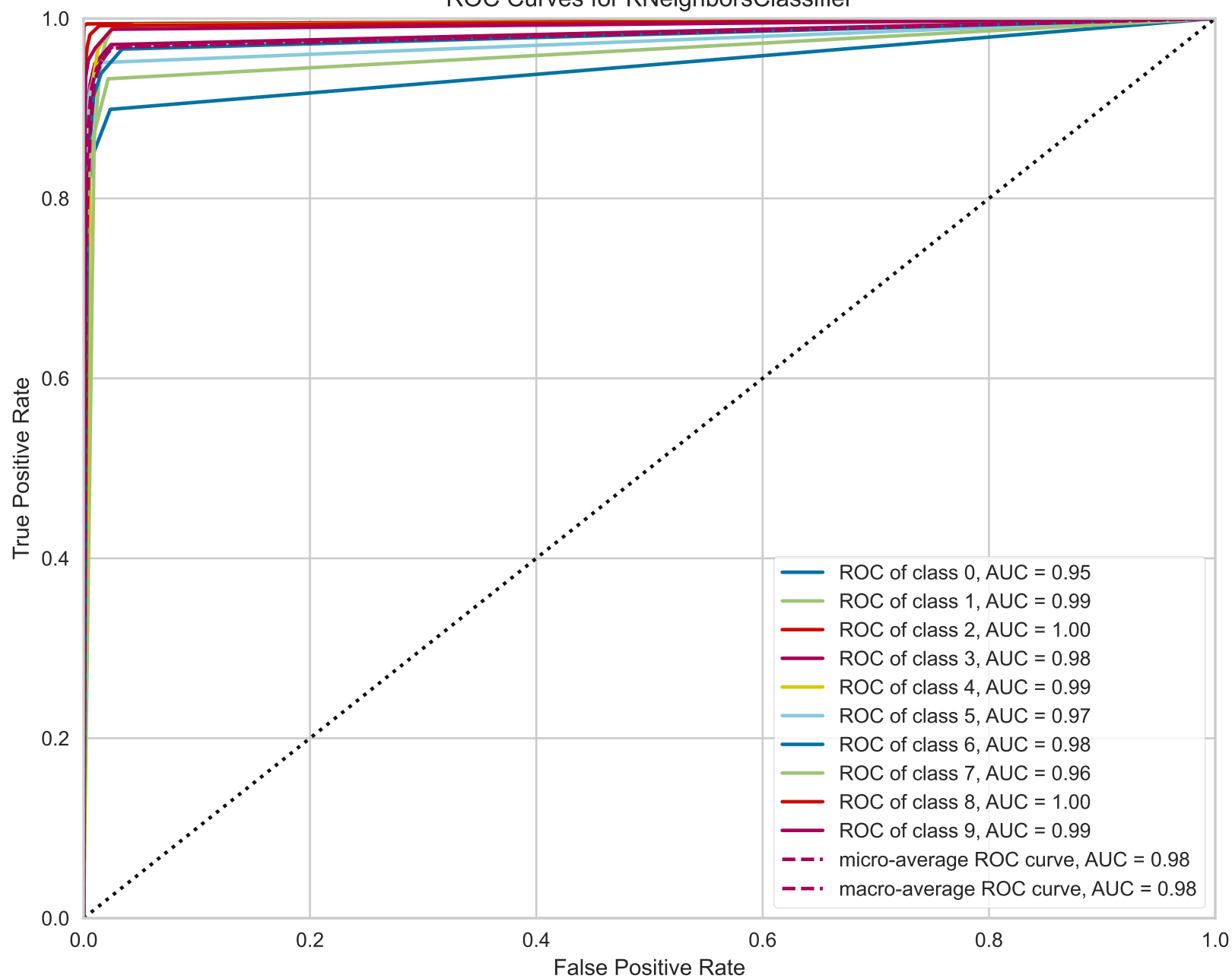|	
ROC of class 0, AUC = 0.96	
ROC of class 1, AUC = 0.98	
ROC of class 2, AUC = 1.00	
ROC of class 3, AUC = 0.98	
ROC of class 4, AUC = 0.98	
ROC of class 5, AUC = 0.98	
ROC of class 6, AUC = 0.98	
ROC of class 7, AUC = 0.97	
ROC of class 8, AUC = 0.98	
ROC of class 9, AUC = 0.97	
micro-average ROC curve, AUC = 0.98	
macro-average ROC curve, AUC = 0.98	
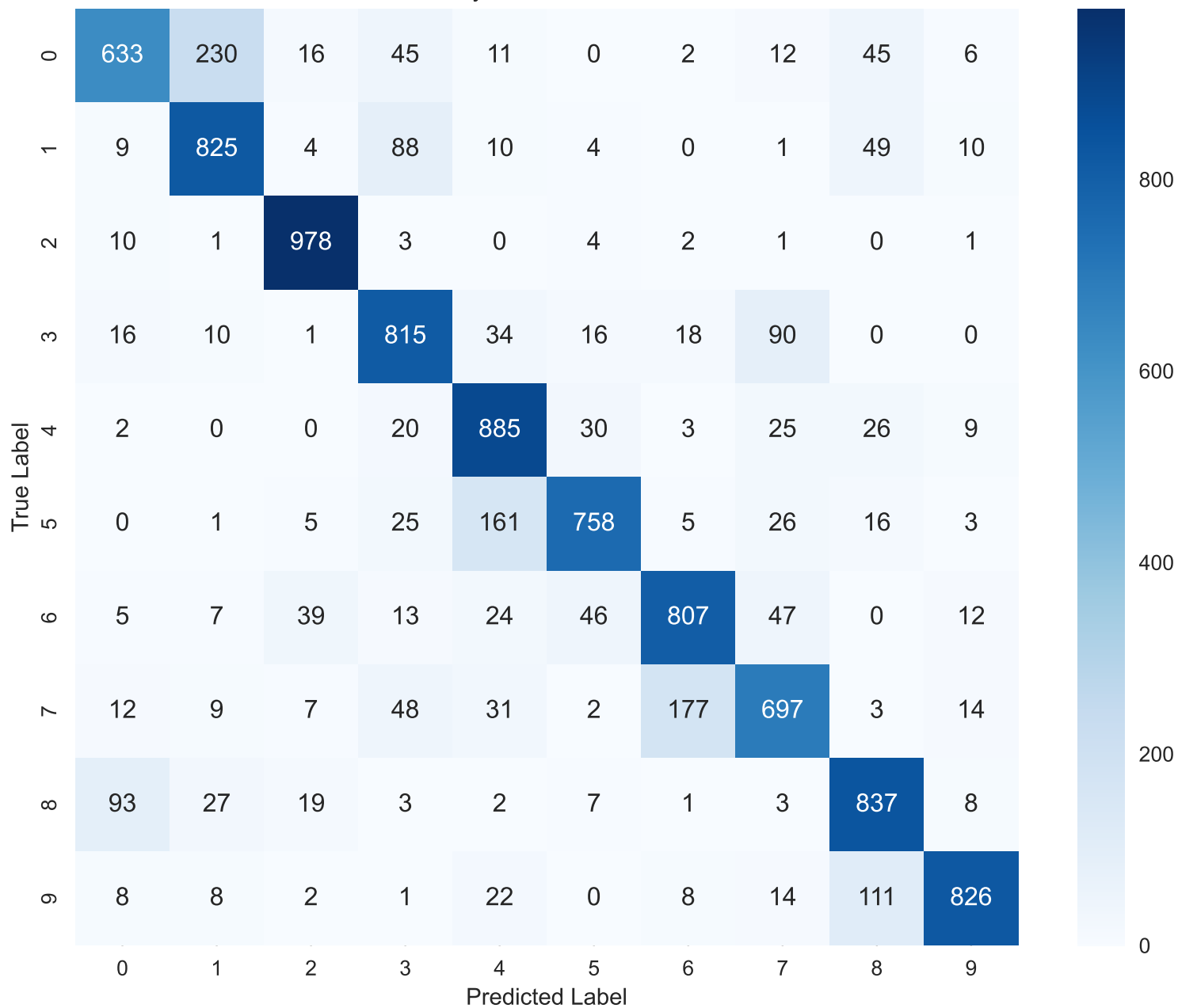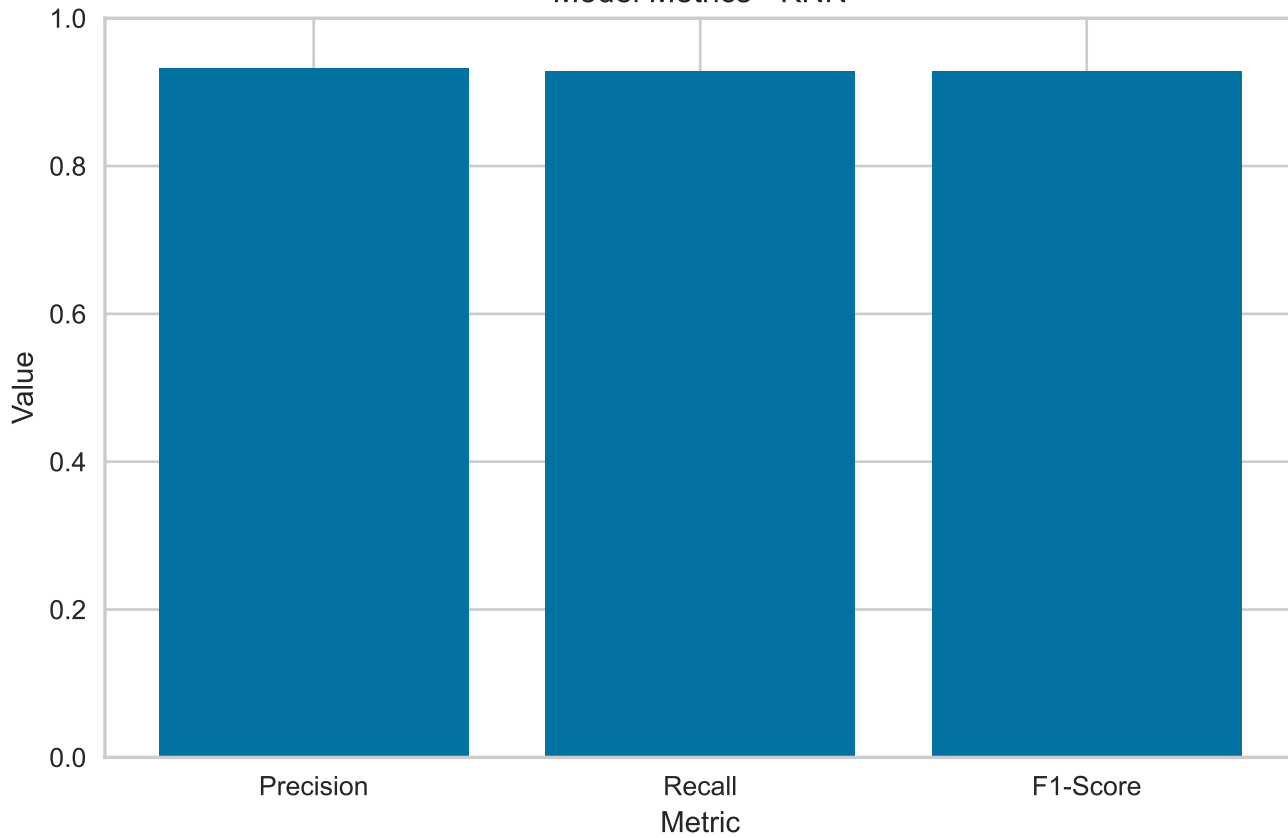
Model Metrics - KNN

KNN - Confusion Matrix

ROC Curves for KNeighborsClassifier

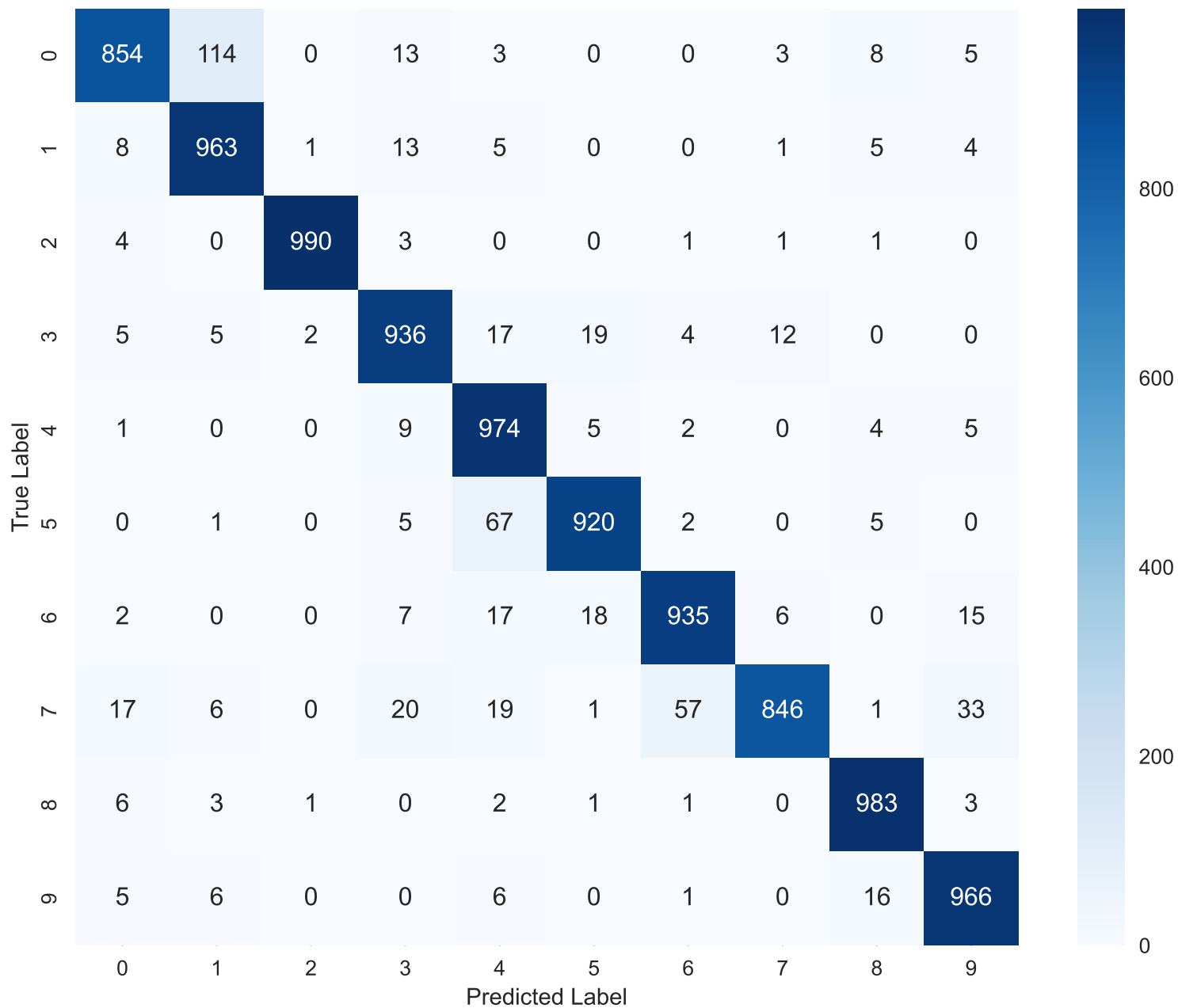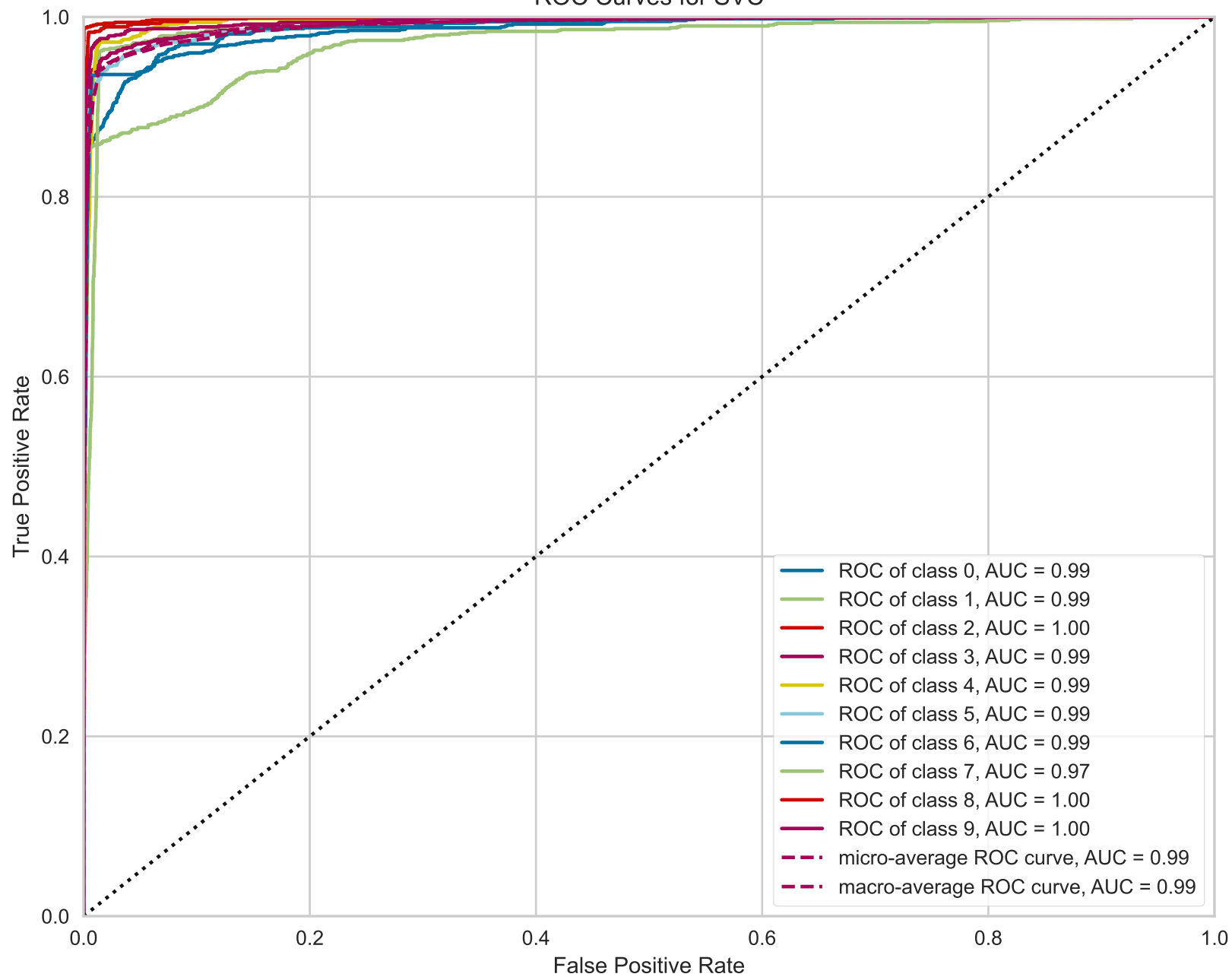|	
	ROC of class 0, AUC = 0.95
	ROC of class 1, AUC = 0.99
	ROC of class 2, AUC = 1.00
	ROC of class 3, AUC = 0.98
	ROC of class 4, AUC = 0.99
	ROC of class 5, AUC = 0.97
	ROC of class 6, AUC = 0.98
	ROC of class 7, AUC = 0.96
	ROC of class 8, AUC = 1.00
	ROC of class 9, AUC = 0.99
	micro-average ROC curve, AUC = 0.98
	macro-average ROC curve, AUC = 0.98

Model Metrics - SVM
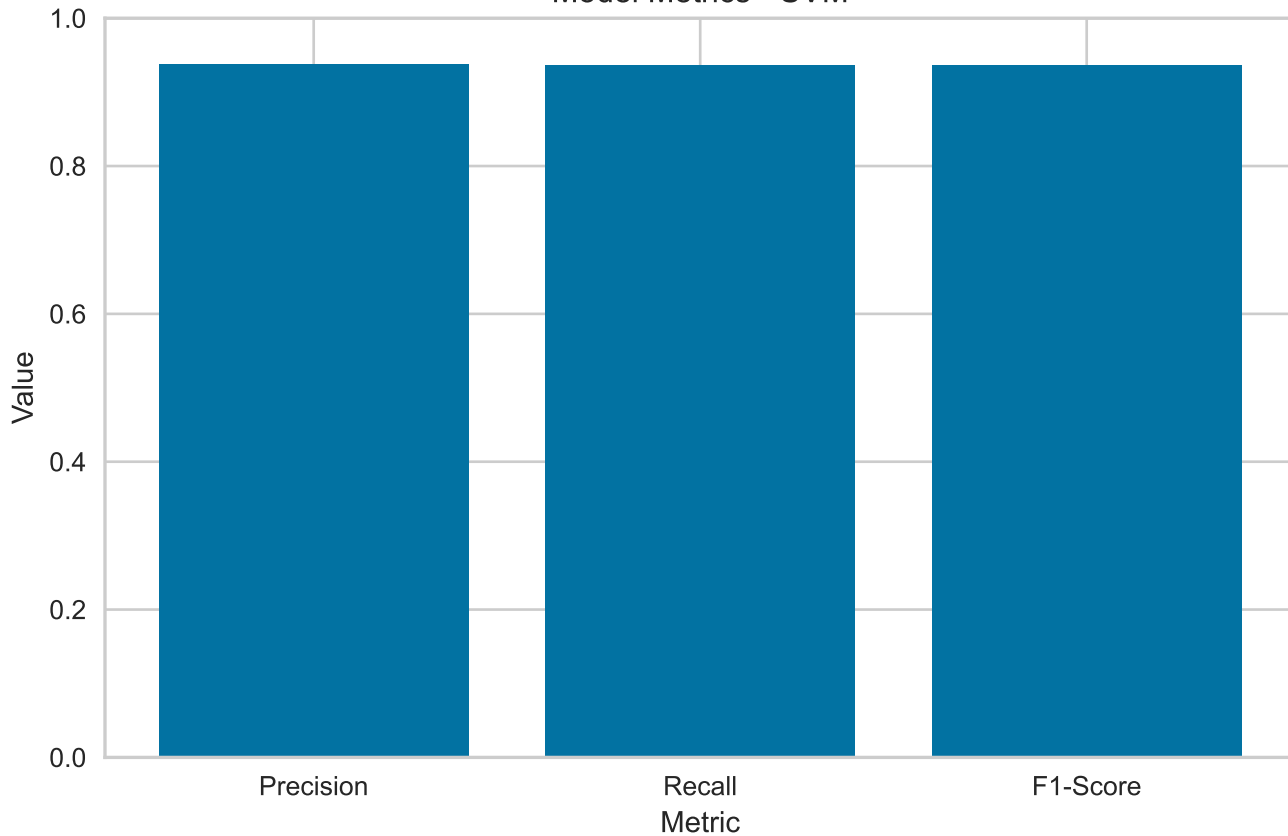
SVM - Confusion Matrix

ROC Curves for SVC

Model Comparison - PCA 25 components

Model	Precision	Recall	F1-Score
Decision Trees	0.8038081818177009	0.8042	0.8030193965574817
Random Forest	0.9078124324479191	0.9048	0.9042683674448975
Naive Bayes	0.8095728402265354	0.8061	0.8048391970873002
KNN	0.9319336437917644	0.9280000000000002	0.927764560255502
SVM	0.9385651691910877	0.9367000000000001	0.9364261004176322