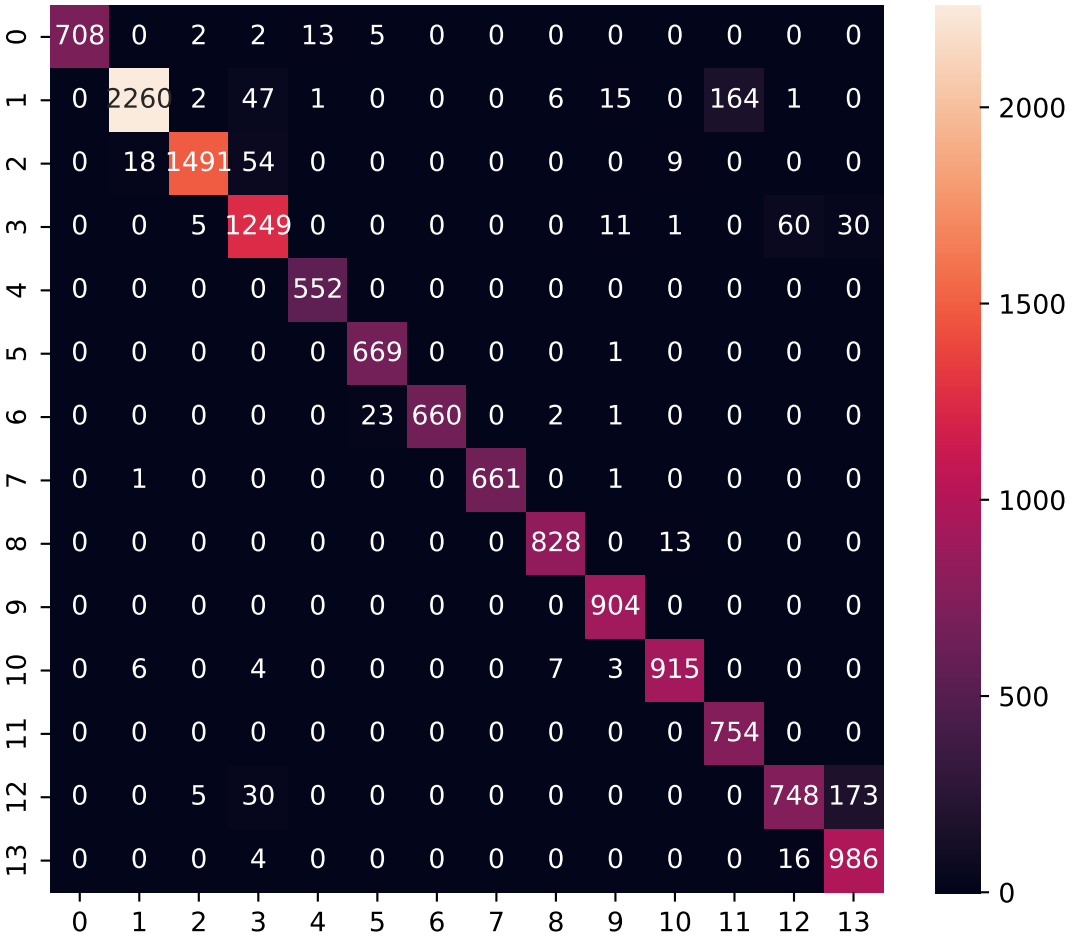
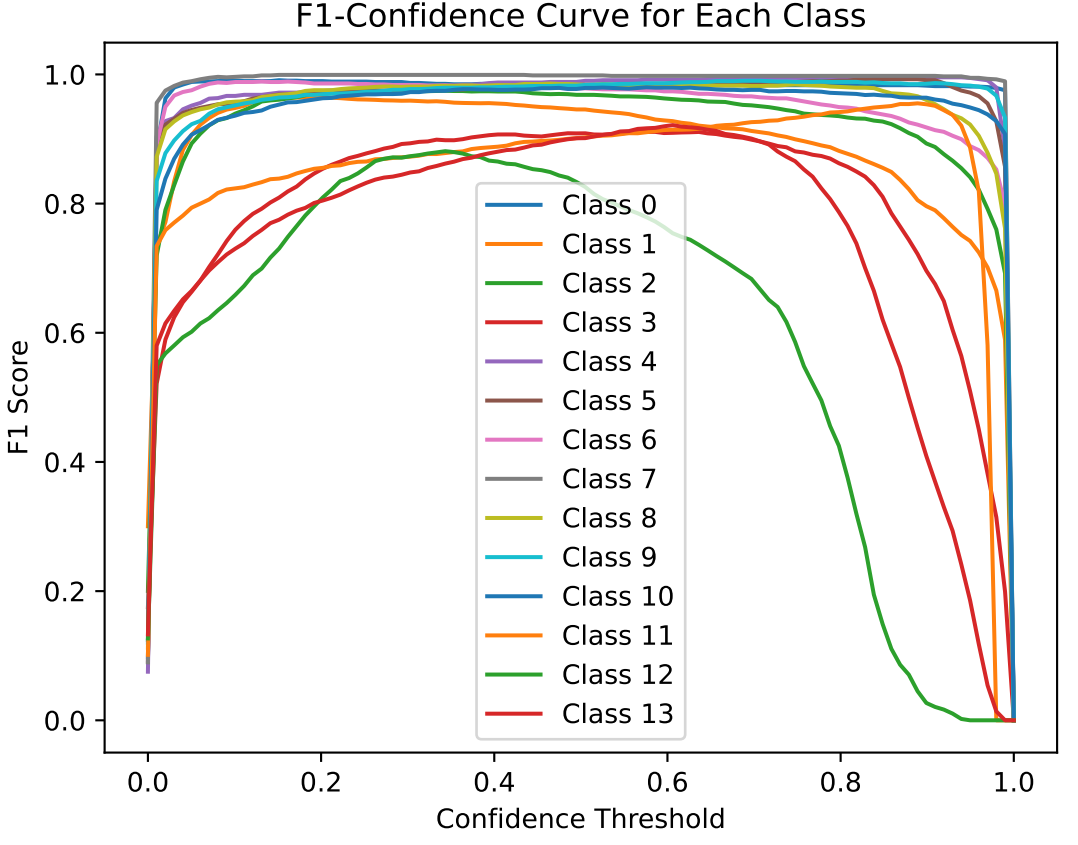
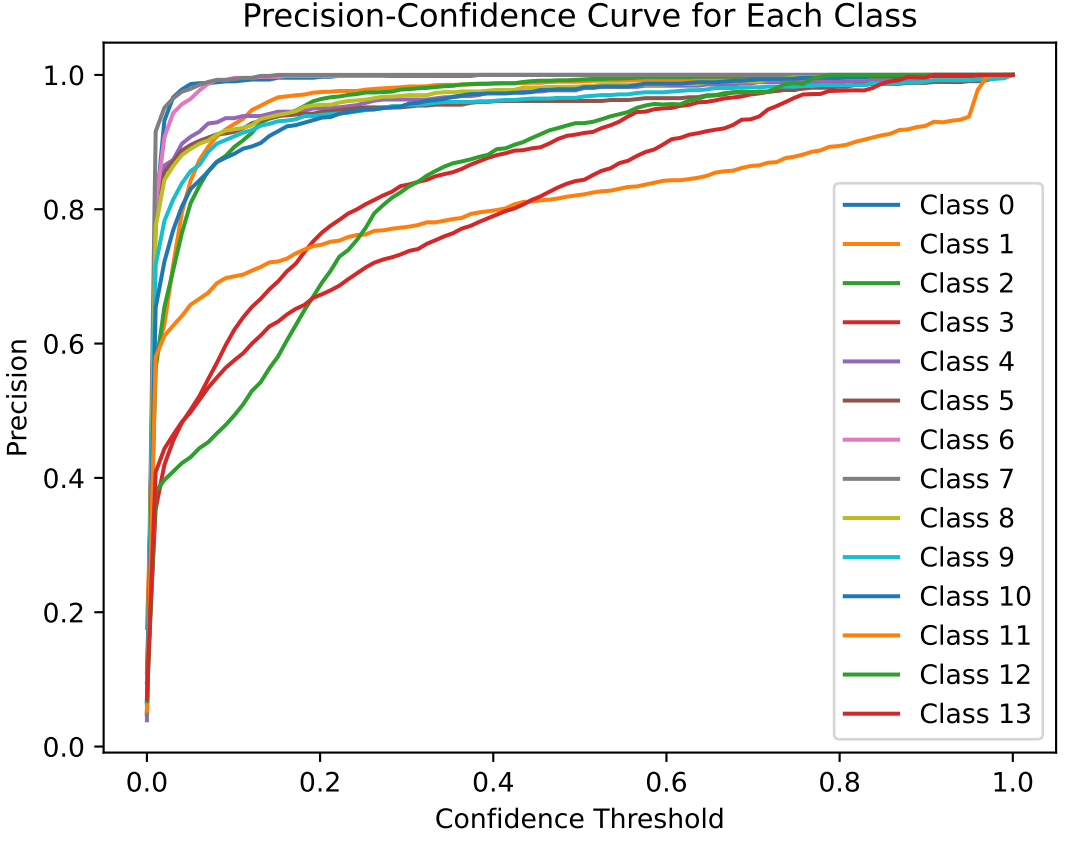
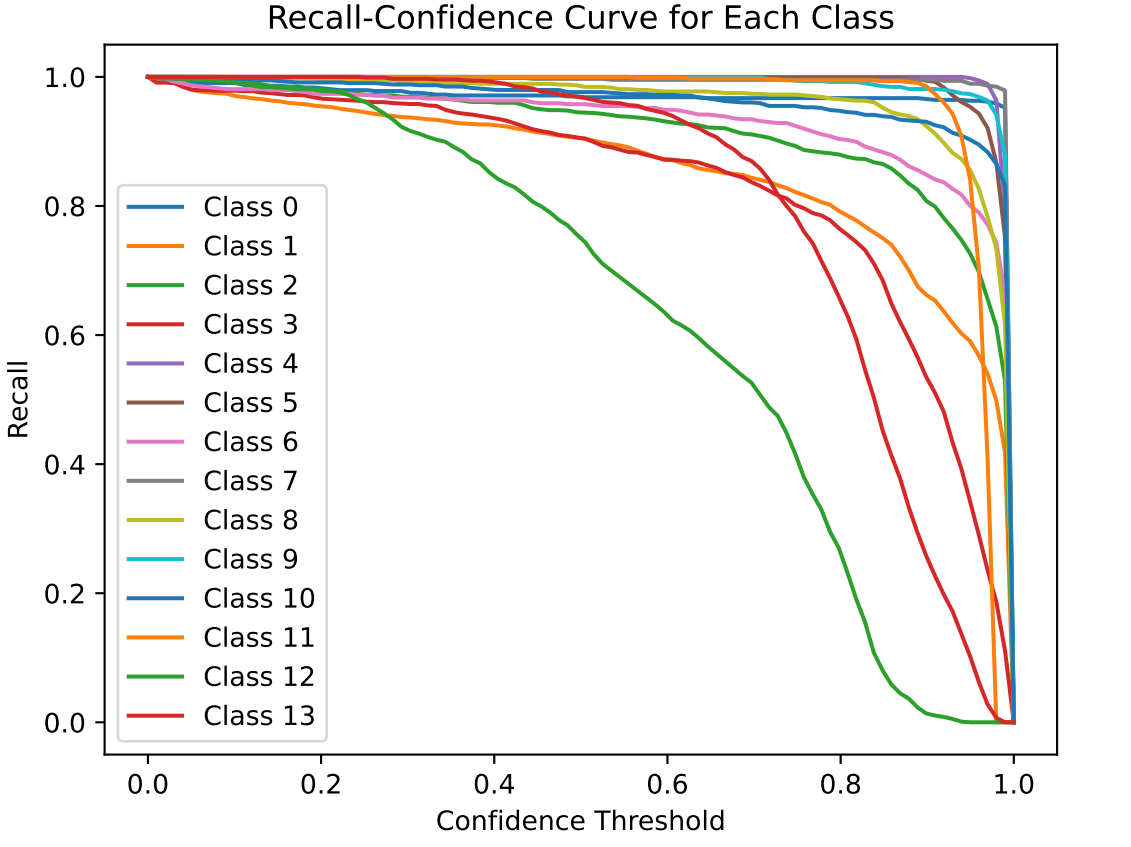
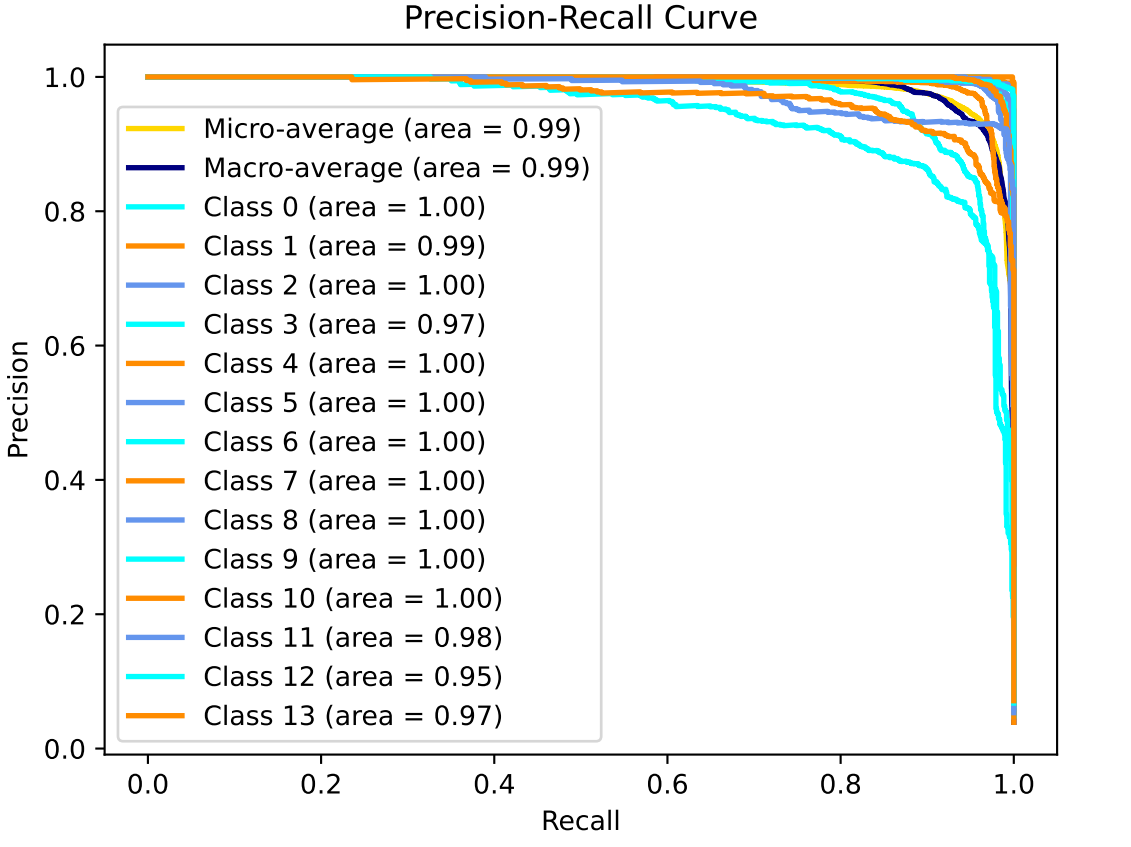
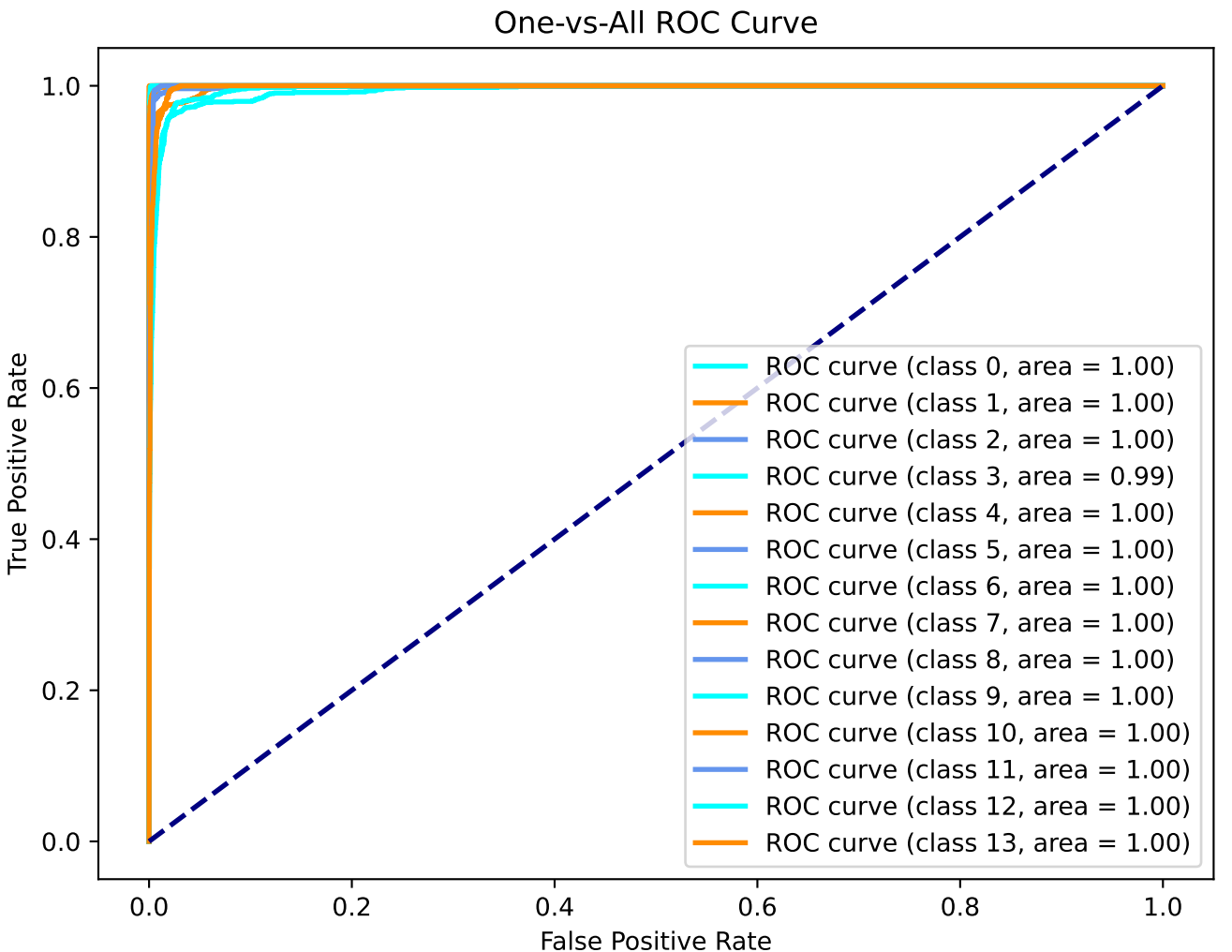

0 708 0 2 2 13 5 0 0 0 0 0 0 0 0
1 0 2260 2 47 1 0 0 0 6 15 0 164 1 0
2 0 18 1491 54 0 0 0 0 0 0 9 0 0 0
3 0 0 5 1249 0 0 0 0 0 11 1 0 60 30
4 0 0 0 0 552 0 0 0 0 0 0 0 0 0
5 0 0 0 0 0 669 0 0 0 1 0 0 0 0
6 0 0 0 0 0 23 660 0 2 1 0 0 0 0
7 0 1 0 0 0 0 0 661 0 1 0 0 0 0
8 0 0 0 0 0 0 0 0 828 0 13 0 0 0
9 0 0 0 0 0 0 0 0 0 904 0 0 0 0
10 0 6 0 4 0 0 0 0 7 3 915 0 0 0
11 0 0 0 0 0 0 0 0 0 0 0 754 0 0
12 0 0 5 30 0 0 0 0 0 0 0 0 748 173
13 0 0 0 4 0 0 0 0 0 0 0 0 16 986
0 1 2 3 4 5 6 7 8 9 10 11 12 13
2000
1500
1000
500
0

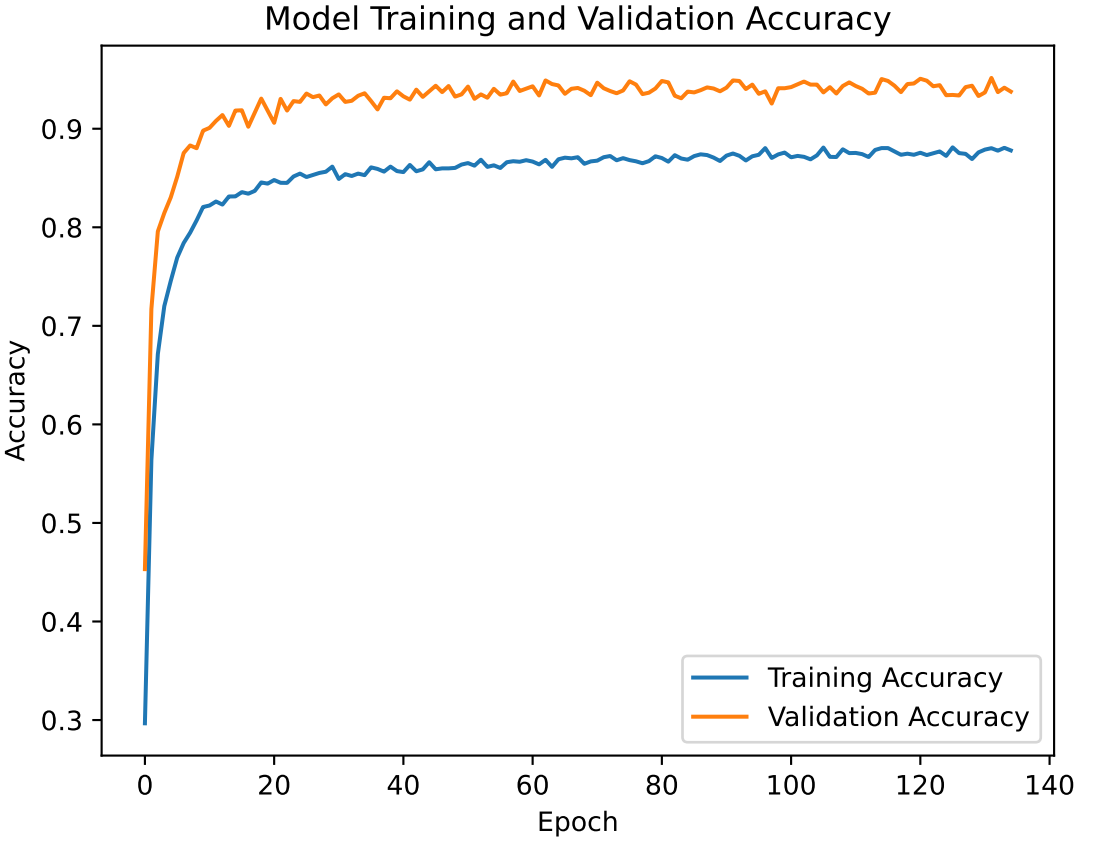

F1-Confidence Curve for Each Class
F1 Score
Confidence Threshold
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Class 0
Class 1
Class 2
Class 3
Class 4
Class 5
Class 6
Class 7
Class 8
Class 9
Class 10
Class 11
Class 12
Class 13

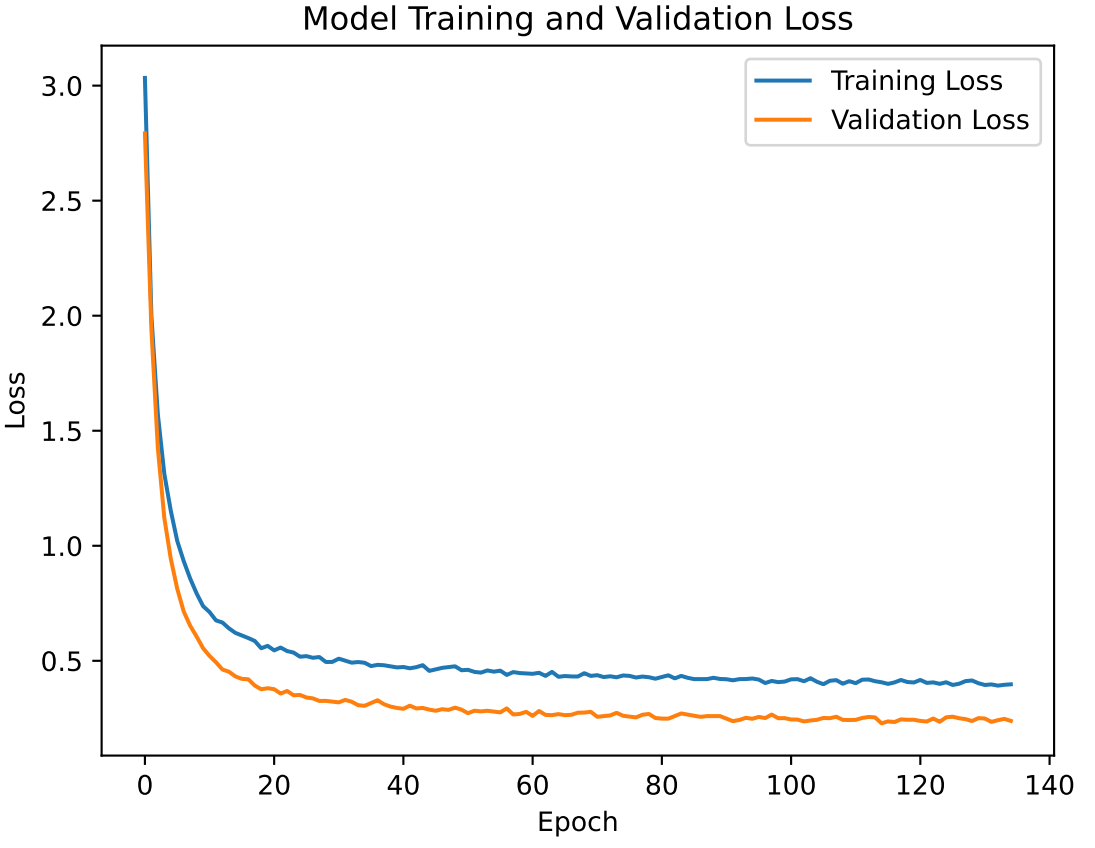

Precision-Confidence Curve for Each Class
Precision
Confidence Threshold
0.0
0.2
0.4
0.6
0.8
1.0
Class 0
Class 1
Class 2
Class 3
Class 4
Class 5
Class 6
Class 7
Class 8
Class 9
Class 10
Class 11
Class 12
Class 13


Recall-Confidence Curve for Each Class
Recall
Confidence Threshold
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Class 0
Class 1
Class 2
Class 3
Class 4
Class 5
Class 6
Class 7
Class 8
Class 9
Class 10
Class 11
Class 12
Class 13


Precision-Recall Curve
Micro-average (area = 0.99)
Macro-average (area = 0.99)
Class 0 (area = 1.00)
Class 1 (area = 0.99)
Class 2 (area = 1.00)
Class 3 (area = 0.97)
Class 4 (area = 1.00)
Class 5 (area = 1.00)
Class 6 (area = 1.00)
Class 7 (area = 1.00)
Class 8 (area = 1.00)
Class 9 (area = 1.00)
Class 10 (area = 1.00)
Class 11 (area = 0.98)
Class 12 (area = 0.95)
Class 13 (area = 0.97)
Precision
Recall
0.0
0.2
0.4
0.6
0.8
1.0


One-vs-All ROC Curve
True Positive Rate
False Positive Rate
0.0
0.2
0.4
0.6
0.8
1.0
ROC curve (class 0, area = 1.00)
ROC curve (class 1, area = 1.00)
ROC curve (class 2, area = 1.00)
ROC curve (class 3, area = 0.99)
ROC curve (class 4, area = 1.00)
ROC curve (class 5, area = 1.00)
ROC curve (class 6, area = 1.00)
ROC curve (class 7, area = 1.00)
ROC curve (class 8, area = 1.00)
ROC curve (class 9, area = 1.00)
ROC curve (class 10, area = 1.00)
ROC curve (class 11, area = 1.00)
ROC curve (class 12, area = 1.00)
ROC curve (class 13, area = 1.00)


Model Training and Validation Accuracy
Accuracy
Epoch
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0
20
40
60
80
100
120
140
Training Accuracy
Validation Accuracy


Model Training and Validation Loss
Training Loss
Validation Loss
Loss
Epoch
3.0
2.5
2.0
1.5
1.0
0.5
0
20
40
60
80
100
120
140