

## Road Defects Classification

### Label Distribution:

label	count
sidewalk_shoulder	5439
patch	4441
isolated_crack	4065
pothole	2706
raveling	1928
bleeding	1301
depression_rutting	1081
connected_crack	949
manhole	166
corrugation_shoving	21

### Model Details:

Provided details in model\_details.docx file

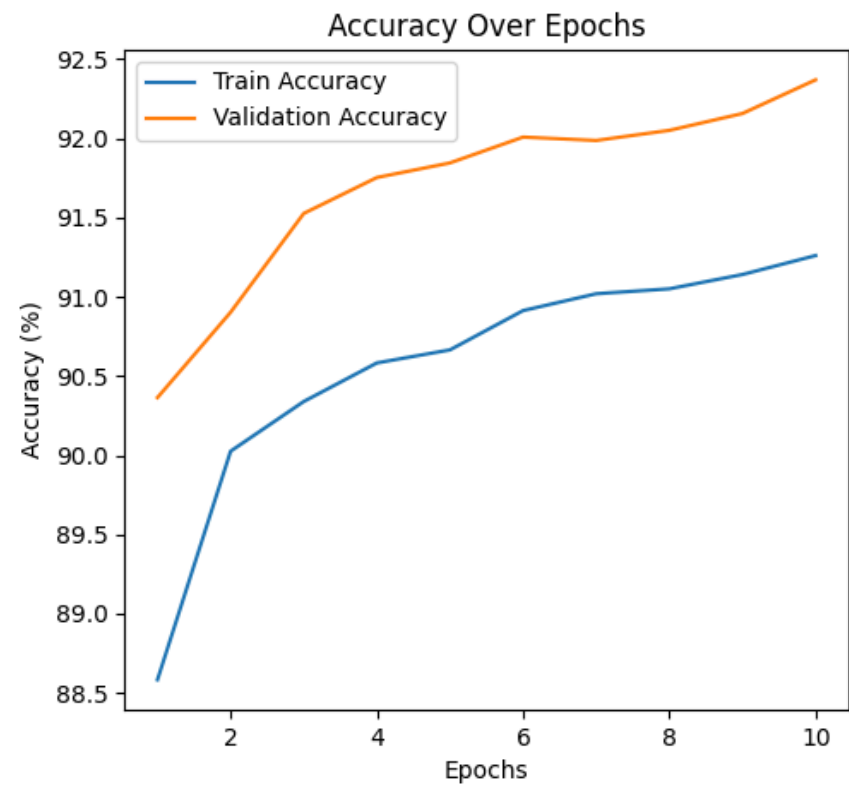
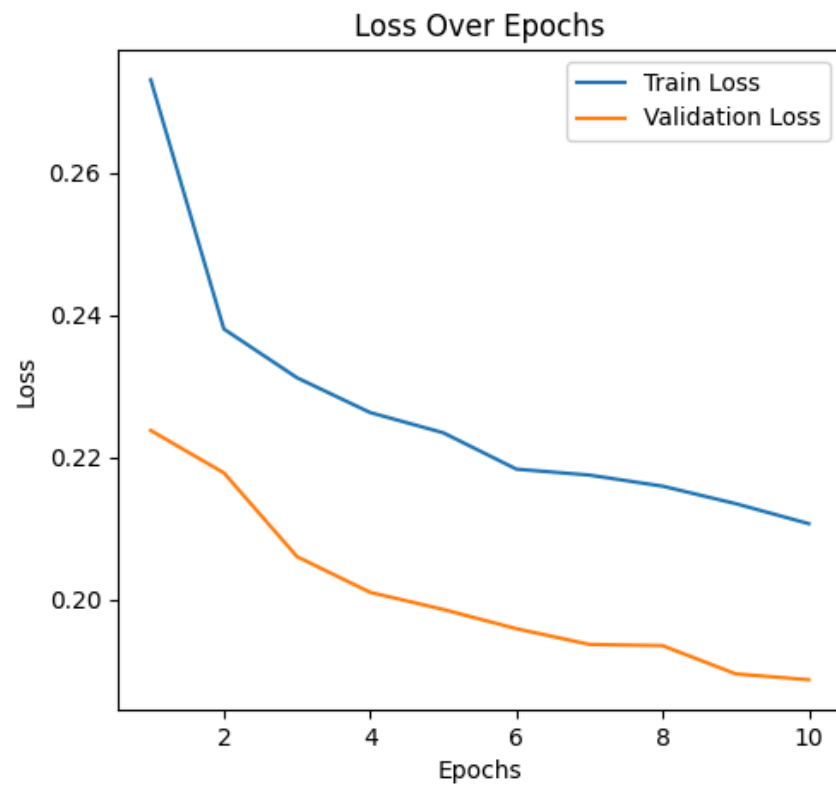
**Model Accuracy:**

Class Name	Accuracy
bleeding	93.76%
connected_crack	94.31%
corrugation_shoving	99.92%
depression_rutting	98.52%
isolated_crack	81.29%
manhole	98.99%
patch	80.83%
pothole	87.45%
raveling	91.04%
sidewalk_shoulder	96.65%

Epoch Details:

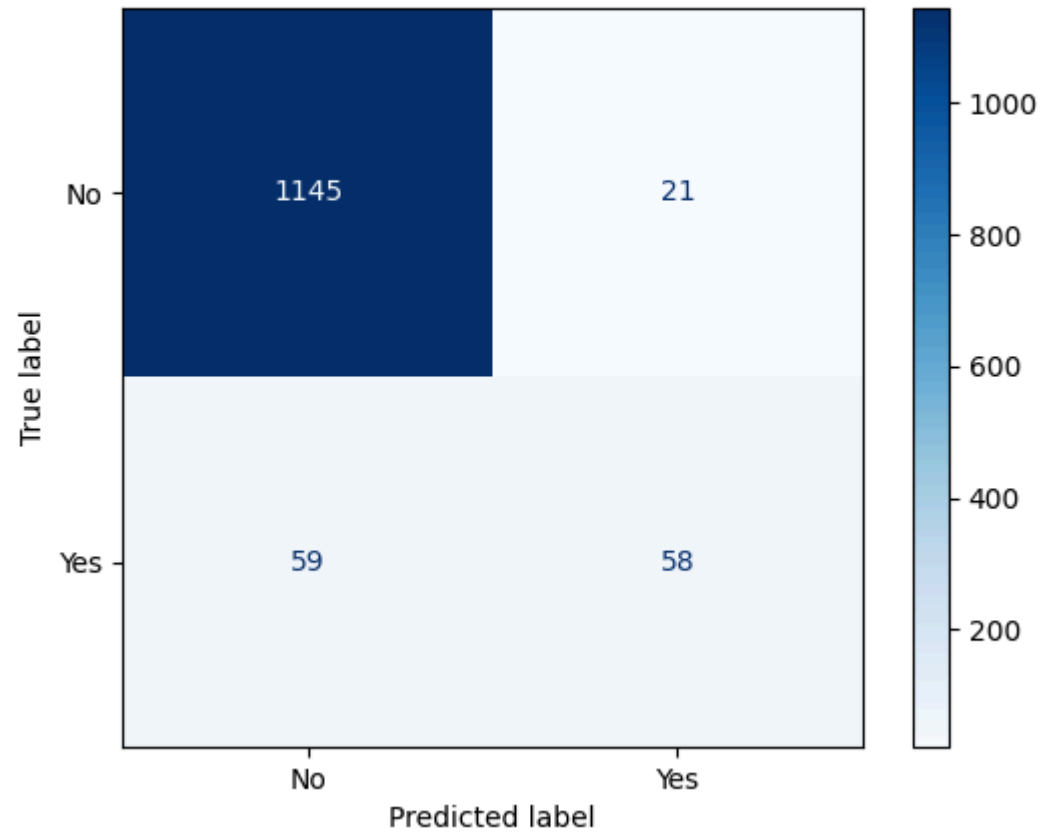
Epoch	Train Loss	Train Accuracy (%)	Val Loss	Val Accuracy (%)	Time (s)
Epoch 1/10	0.2731	88.58%	0.2238	90.36%	156.85s
Epoch 2/10	0.2381	90.03%	0.2178	90.90%	61.31s
Epoch 3/10	0.2312	90.34%	0.206	91.53%	60.84s
Epoch 4/10	0.2263	90.58%	0.201	91.75%	60.89s
Epoch 5/10	0.2235	90.66%	0.1986	91.84%	61.41s
Epoch 6/10	0.2184	90.91%	0.1959	92.01%	58.26s
Epoch 7/10	0.2175	91.02%	0.1937	91.99%	56.58s
Epoch 8/10	0.216	91.05%	0.1935	92.05%	56.05s
Epoch 9/10	0.2135	91.14%	0.1895	92.16%	57.87s
Epoch 10/10	0.2107	91.26%	0.1887	92.37%	56.43s

Evolution History:

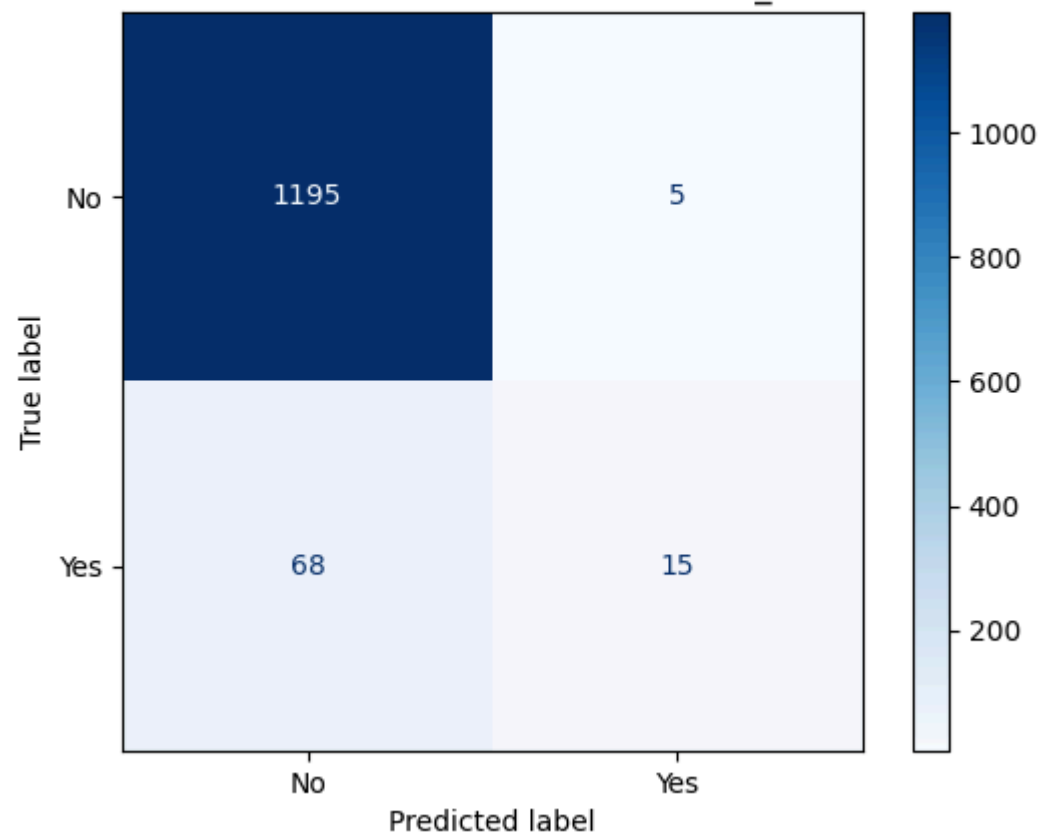


**Confusion Matrix:**

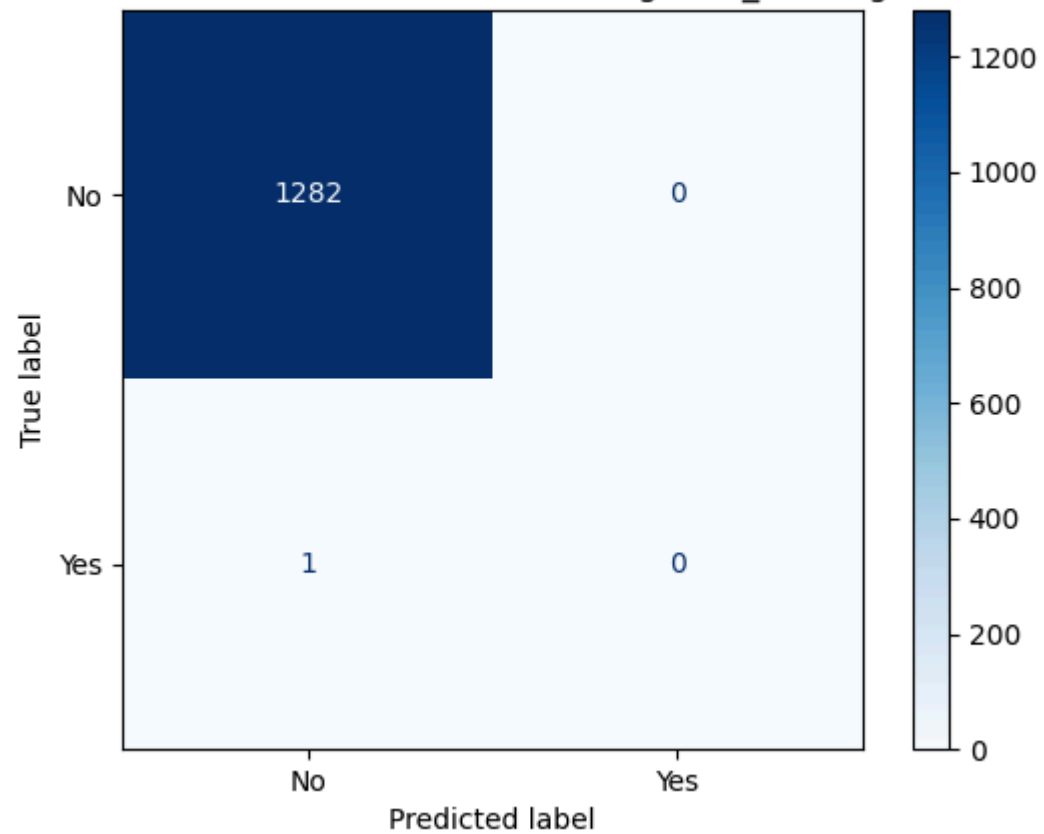
Confusion Matrix for Class: bleeding



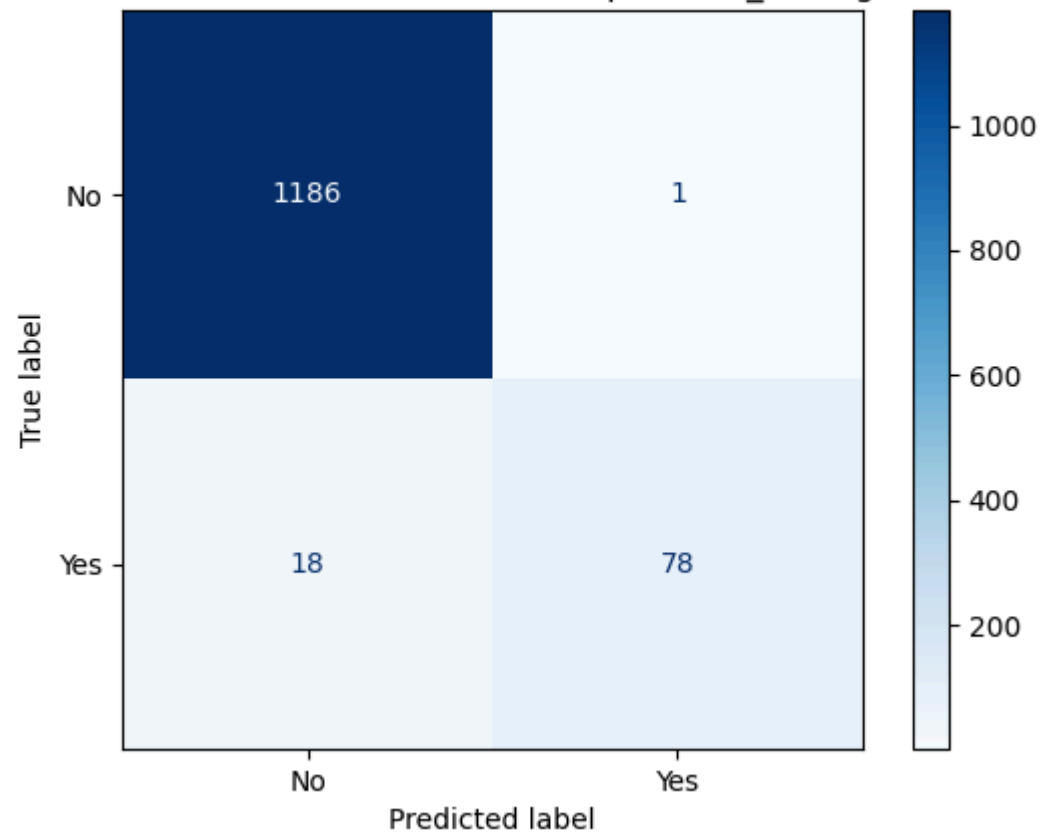
Confusion Matrix for Class: connected\_crack



Confusion Matrix for Class: corrugation\_shoving

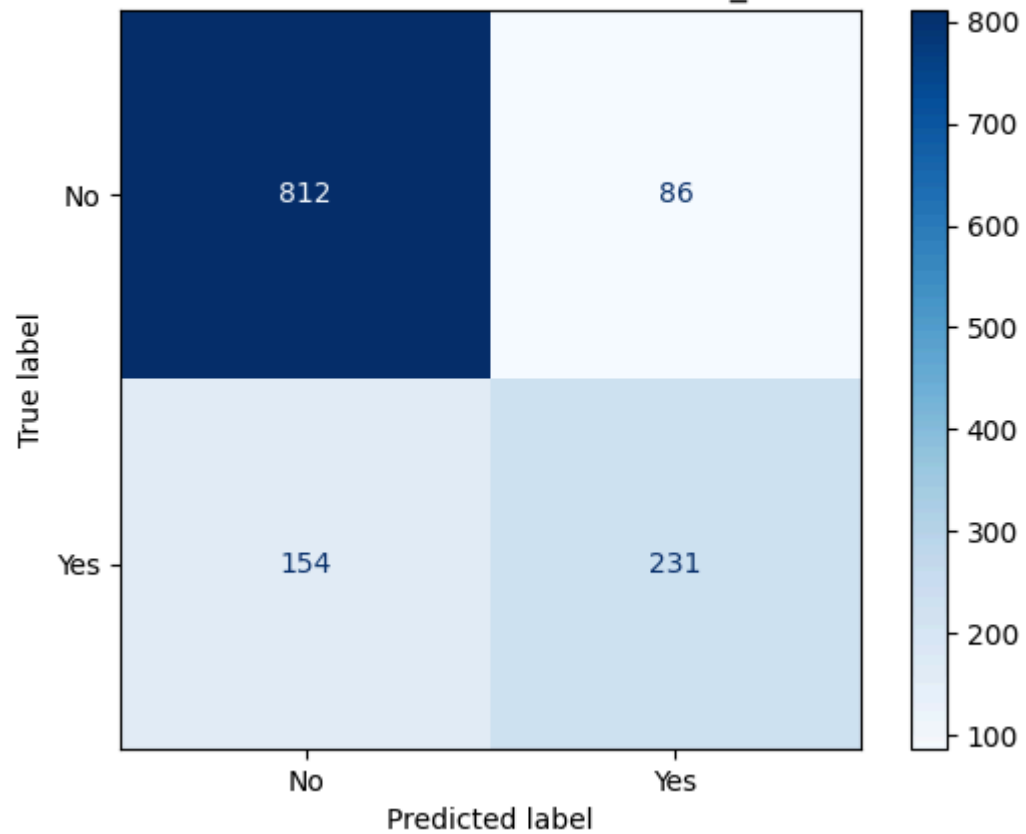


Confusion Matrix for Class: depression\_rutting

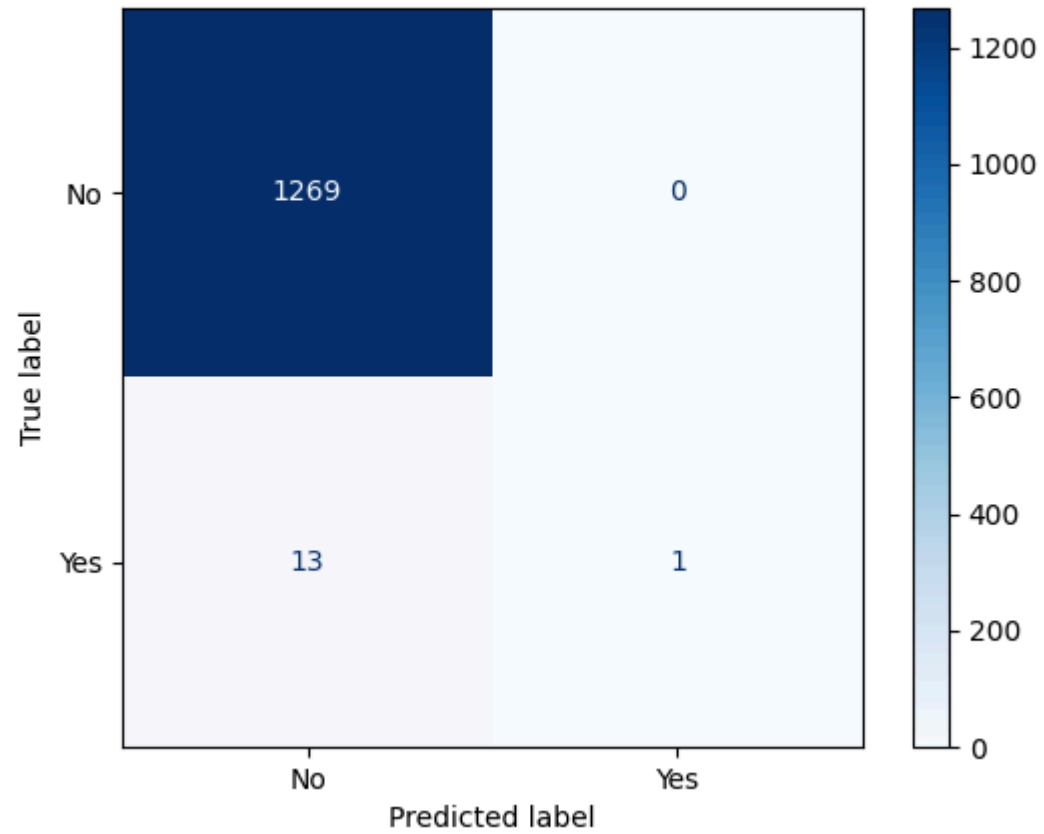




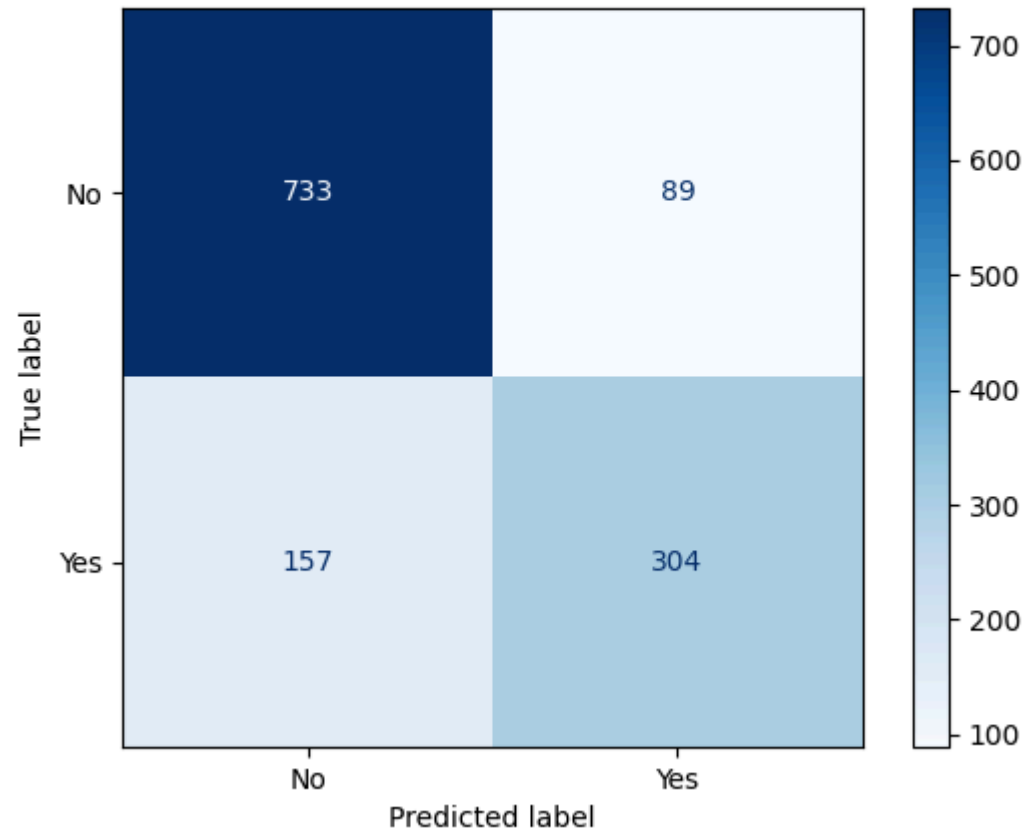
Confusion Matrix for Class: isolated\_crack



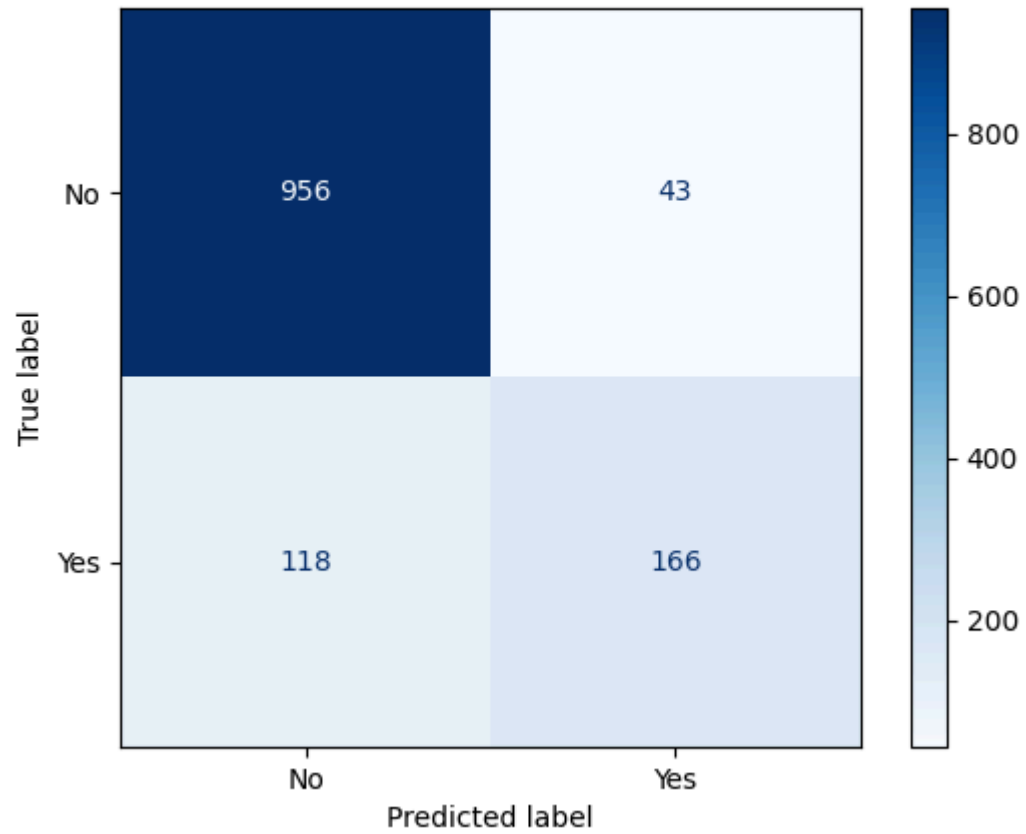
Confusion Matrix for Class: manhole



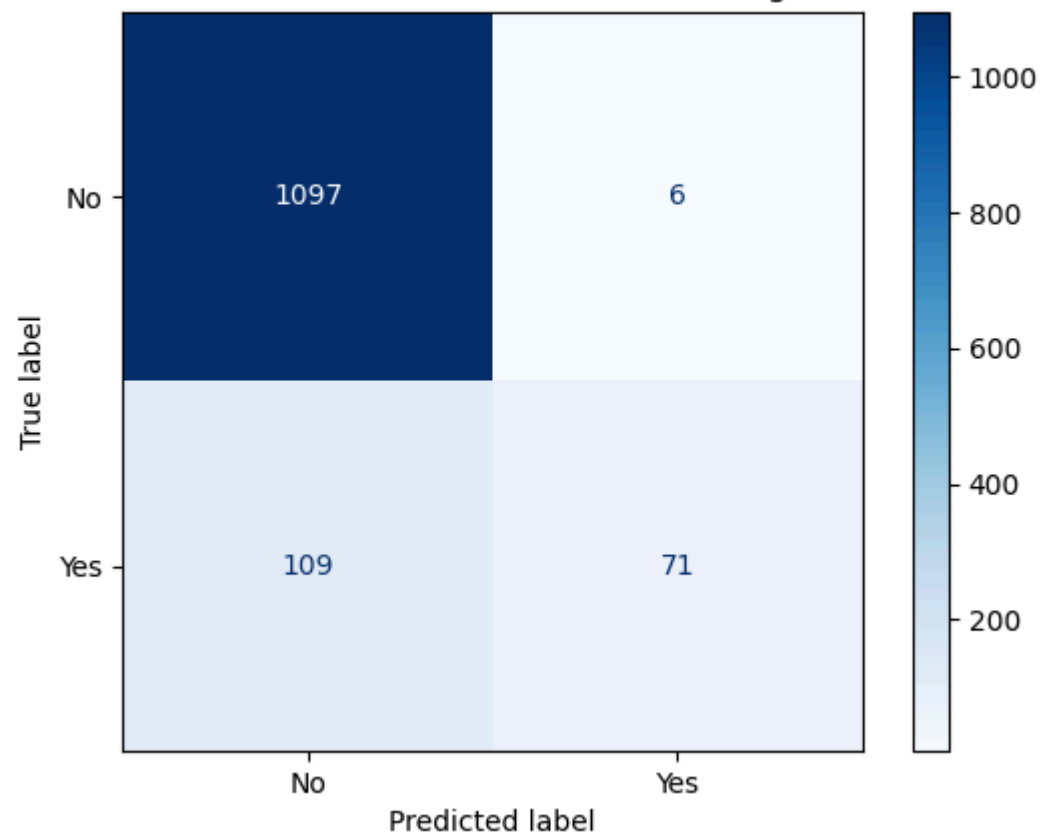
Confusion Matrix for Class: patch



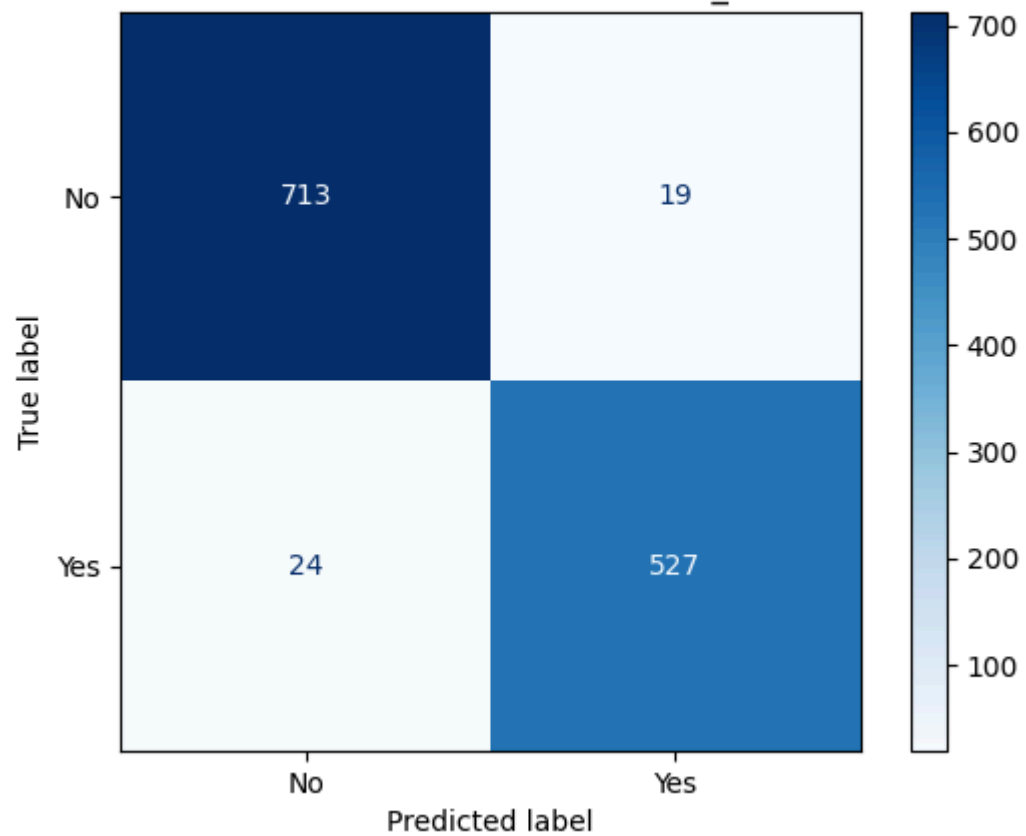
Confusion Matrix for Class: pothole



Confusion Matrix for Class: raveling



Confusion Matrix for Class: sidewalk\_shoulder



Confusion Matrix for Class: sidewalk\_shoulder

