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Recycling Image Detection-- Point System
Deliverable 3

Cardboard	Precision	Recall	F-1
Pre-preprocessing	0.92	0.81	0.86
Post-preprocessing	0.78	0.79	0.78
Glass			
Pre-preprocessing	0.85	0.87	0.86
Post-preprocessing	0.74	0.88	0.8
Metal			
Pre-preprocessing	0.69	0.81	0.75
Post-preprocessing	0.92	0.87	0.89
Paper			
Pre-preprocessing	0.88	0.92	0.9
Post-preprocessing	0.8	0.68	0.74
Plastic			
Pre-preprocessing	0.85	0.81	0.83
Post-preprocessing	0.91	0.88	0.89
Trash			
Pre-preprocessing	0.8	0.71	0.75
Post-preprocessing	0.71	0.77	0.74

Confusion Matrix
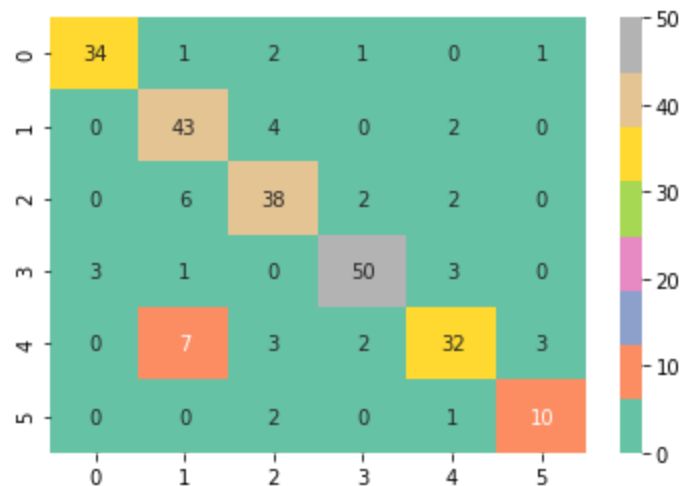
An improvement from the preliminary results is that the preprocessed images were used as input to the feature extraction and training of the model, rather than the raw data images. This resulted in slightly lower precision, recall, and f1-score values compared to before because the only preprocessing steps used were resizing the images, adding blur, and converting the images to black and white. I am still in the process of trying to accurately apply data augmentation to the images in order to increase the accuracy of the model.

The final product will comprise a simple webapp in which users will be prompted to log into their account of a metrocard system that tracks points to be redeemed for metro fare. If the user scans a picture of a trash item that is recyclable (made of cardboard, glass, metal, paper, or plastic), then points will be awarded. If not, then the number of points will remain the same. While I don't have experience with building a webapp, I plan to continue watching the recording of the webapp workshop and use other online resources to construct it.