

ROAD DEFECT DETECTION SYSTEM

Image & Video Testing Report

Positive Image Test 1 – Pothole

Test Type: Positive Image

Input: Image of a clear road pothole

Expected: Pothole should be detected

Actual: Pothole detected with bounding box

Result: Pass

Observation:

The model correctly identified the pothole with high confidence and accurate localization.

Input image:



Output Image:

Potholes	Plastic	Other Litter
7	0	0



Positive Image Test 2 – Plastic Bottle

Test Type: Positive Image

Input: Plastic bottle Image

Expected: Plastic should be detected

Actual: Plastic detected correctly

Result: Pass

Observation:

The system successfully classified the plastic object without confusion.

Input image:



Output Image:

Potholes	Plastic	Other Litter
0	1	0



Positive Image Test 3 – Other Litter

Test Type: Positive Image

Input: Glass Bottle on the table

Expected: Other litter should be detected

Actual: Detected as other litter

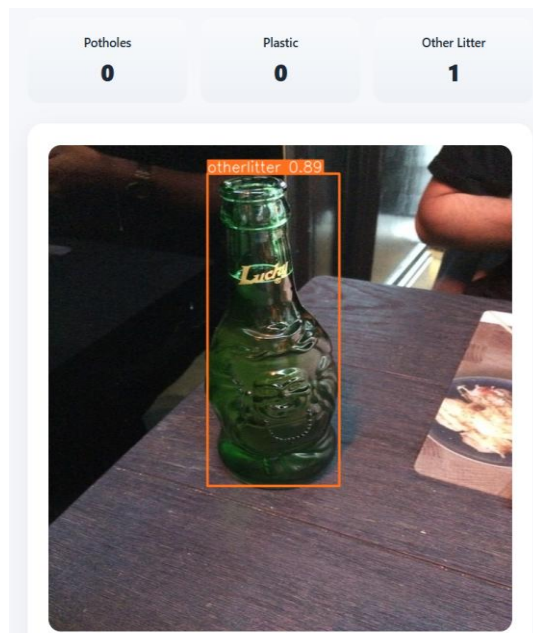
Result: Pass

Observation: The model performed well on general waste detection.

Input image:



Output Image:



Positive Video Test 1 – Pothole Road

Test Type: Positive Video

Input: Video showing road with potholes

Expected: Potholes detected in multiple frames

Actual: Detected consistently

Result: Pass

Observation:

Stable detection across frames without missing major defects.

Input video:

Link-> https://drive.google.com/file/d/13KxSa8ahElumIheLmQPDdHeSF7PwmBKw/view?usp=drive_link

Output video:

Link-> https://drive.google.com/file/d/1vTCHFiG5FjqFq6S2Mv6aznZiV9WrDLei/view?usp=drive_link

Positive Video Test 2 – Garbage Road

Test Type: Positive Video

Input: Road with visible garbage

Expected: litter detected

Actual: classe detected

Result: Pass

Observation:

The system successfully handled other litter in video.

Input video:

Link-> https://drive.google.com/file/d/14dzd05FvfXyQbjUcloOrz0Y2s2HUmqko/view?usp=drive_link

Output video:

Link-> https://drive.google.com/file/d/1p25D6rbamL5TpyN77IDkBahFb1_0JI6z/view?usp=drive_link

Negative Image Test 1 – Clean Road

Test Type: Negative Image

Input: Empty clean road

Expected: No detection

Actual: No bounding boxes

Result: Pass

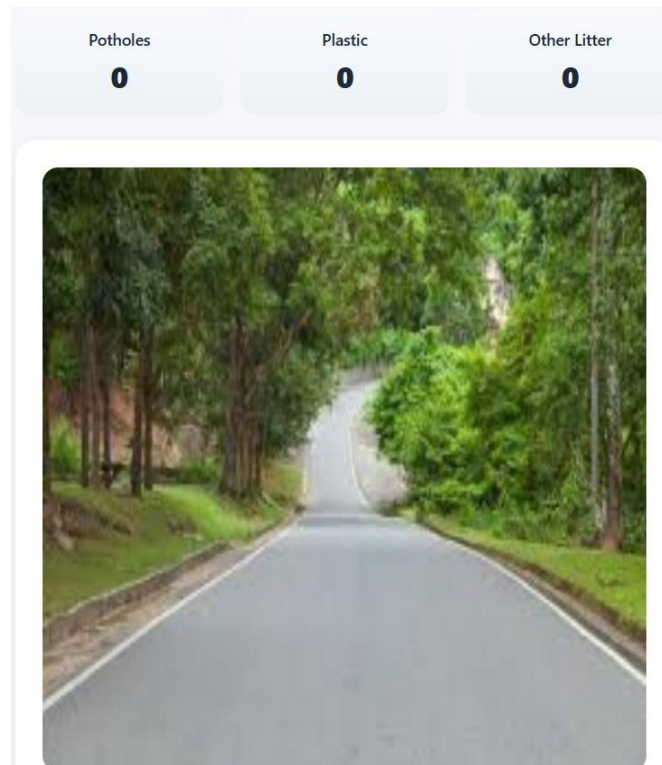
Observation:

The model did not generate false positives.

Input image:



Output image:



Negative Image Test 2 – Classroom

Test Type: Negative Image

Input: Indoor classroom image

Expected: No detection

Actual: No detection

Result: Pass

Observation: System correctly ignored irrelevant objects.

Input Image :



Output Image:

Potholes	Plastic	Other Litter
0	0	0



Edge Image Test 1 – Blurry Image

Test Type: Edge / Partial Correct

Input: Blurry image

Expected: May detect or miss

Actual: Partial detection

Result: Partial Correct

Observation:

Blur reduced detection accuracy.

Input Image:



Output Image:

Potholes	Plastic	Other Litter
0	0	0



Edge Image Test 2 – Small images

Test Type: Edge / Partial Correct

Input: Side Road

Expected: May detect or miss

Actual: Partial detection

Result: Partial Correct

Observation: Blur reduced detection accuracy.

Input Image:



Output Image:

