

# **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:**



## **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

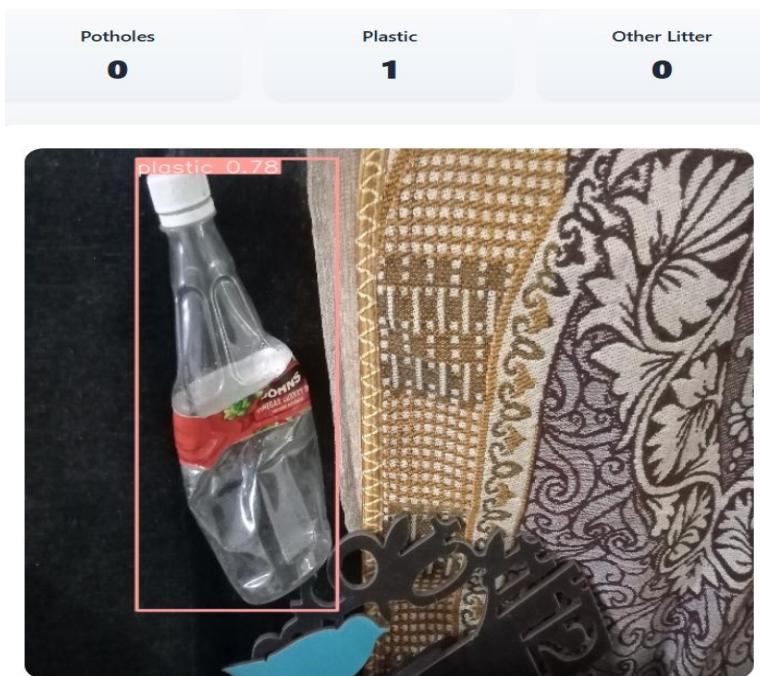
Observation:

The system successfully classified the plastic object without confusion.

**Input image:**



**Output Image:**



## **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/13KxSa8ahElumlheLmQPDdHeSF7PwmBKw/view?usp=drive\\_link](https://drive.google.com/file/d/13KxSa8ahElumlheLmQPDdHeSF7PwmBKw/view?usp=drive_link)

### **Output video:**

Link-> [https://drive.google.com/file/d/1vTCHFiG5FjqFq6S2Mv6aznZiV9WrDLei/view?usp=drive\\_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](https://drive.google.com/file/d/14dzd05FvfXyQbjUcloOrz0Y2s2HUmqko/view?usp=drive_link)

### **Output video:**

Link-> [https://drive.google.com/file/d/1p25D6rbamL5TpyN77IDkBahFb1\\_0Jl6z/view?usp=drive\\_link](https://drive.google.com/file/d/1p25D6rbamL5TpyN77IDkBahFb1_0Jl6z/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

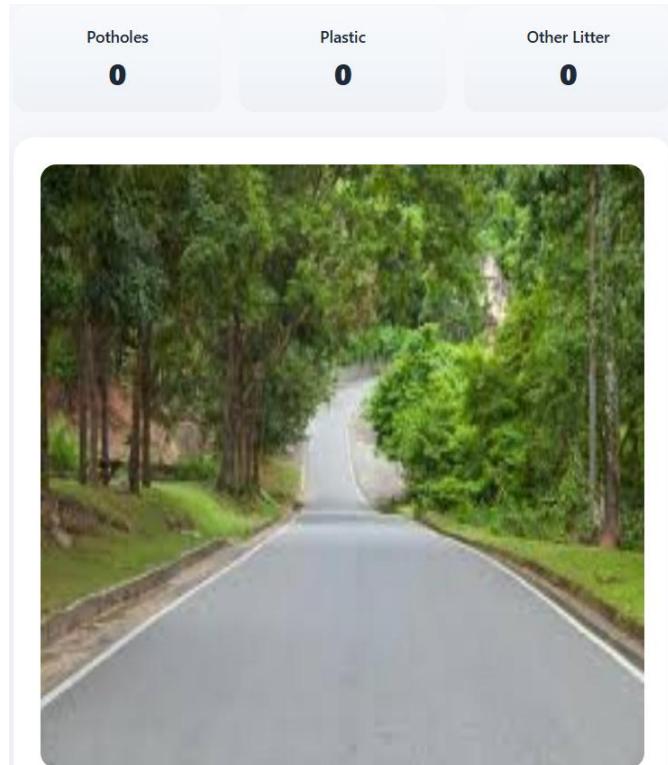
**Observation:**

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:**



## **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:**



## 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:**

