

Transforming Waste Management Using Transfer Learning

Date	29 june 2025
Team Id	LTVIP2025TMID33261
Project Name	Transforming Waste Management Using Transfer Learning
Maximum Marks	5 Marks

Problem – Solution Fit Template:

The solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, city planners, and sustainability innovators identify behavioral patterns and recognize what would work and why.

Purpose:

- To automate the classification of waste types using deep learning models.
- To enhance waste segregation efficiency through intelligent visual recognition.
- To reduce manual errors and accelerate the process of waste sorting and disposal.
- To provide a user-friendly interface for individuals to upload waste images and receive instant classification results.

Problem:

In public and industrial environments, manual identification and classification of waste:

- Is time-consuming and inefficient
- Leads to frequent human errors in sorting and disposal
- Is difficult to scale in large urban or institutional areas
- Results in improper waste handling and inconsistent recycling outcomes

Small and mid-sized organizations often lack the advanced tools to automate this task efficiently.

Solution:

Smart Waste Classifier is a deep learning-based system that automatically identifies and classifies

waste types:

- Utilizes Convolutional Neural Networks (CNNs) with Transfer Learning for waste recognition
- Offers a simple image upload interface for ease of use
- Delivers fast and accurate waste classification results