Project Problem Statement

The world is facing growing environmental challenges due to unsustainable waste disposal, rising pollution, and rapid solid-waste generation. Increasing urbanization and changing consumption patterns have made waste segregation difficult, inefficient, and unsafe, leading to soil and water contamination and higher landfill burden.
There is a need for automated systems that can accurately classify waste and support sustainable recycling. AI-based image classification can improve segregation efficiency, reduce manual effort, and promote responsible waste management.

Solution Approach

To address this issue, an intelligent and automated system is required to accurately classify waste using technologies like Convolutional Neural Networks (CNNs). Such a system can improve waste segregation, support recycling, and reduce the environmental impact caused by improper disposal.

DataSet

Dataset Name: Garbage Dataset

A comprehensive image dataset created for waste classification and recycling applications.

About Dataset

This dataset contains images of garbage items categorized into 10 classes, designed for machine learning and computer vision projects focusing on recycling and waste management. It is ideal for building classification or object detection models or developing AI-powered solutions for sustainable waste disposal.

Source: Kaggle

Next Steps

1. Collect & Prepare Dataset
2. Train The CNN model using Teachable Machine
3. Evaluate and Test the trained Model
4. Build the web-based Interface
5. Test the Complete Application
6. Deploy the system and document the results