Trash Image Detection

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Introduction:

Overview:

In this project, an image detection model will be developed to detect whether an object is trash. Specifically, determine if an object is organic and commonly found in nature, or if the object inside an image is something that should be collected and disposed into garbage collection disposal systems (Plastic bags, cigarette butts, etc.).

Purpose:

The idea is to train birds to retrieve trash and dispose them in a central location to reduce resources needed to clean up man made objects harmful to the natural environment through positive reinforcement training. This practice is currently performed manually in a French theme park, as featured in the [Smithsonian Magazine](https://www.smithsonianmag.com/smart-news/french-theme-park-taught-crows-pick-trash-180969996/#:~:text=Staff%20at%20Puy%20du%20Fou,each%20time%20rubbish%20is%20deposited.) in 2018. The birds are trained to pick up trash and dispose the objects into a box, then are rewarded with food. In this article, it also explains that the birds attempted to trick the system by putting in wood chips or other objects that are not considered trash. This project aims to create a system that identifies the act of placing a piece of trash onto a static location, as well as identifies objects that don’t belong in the trash.