NAME: OYAMA FAITHFUL OVAT

Class : JSS3

School: Alpha People International Secondary School Calabar

Let's innovate in the recycling space!

If I could invent something new,, it would be an AI-powered recycling system that uses computer vision and machine learning to identify and sort recyclables with unprecedented accuracy.

Our trash situation is one of the major reasons our environment is becoming inhabitable. Overpopulation is a big factor, However, this is not the problem.

The problem is the unbreathable air that emanates from the decomposing of the collective, unseparated trash. Because we do not recycle, when our combined trash decomposes, it makes the area inhabitable and the air unbreathable.

This is where my innovation comes it. I call it "SmartSort". I'll dive right into it.

Concept:

1. \_Advanced scanning\_: SmartSort uses high-resolution scanners to identify materials, labels, and contaminants.

2. \_AI-driven sorting\_: Machine learning algorithms categorize items into precise recycling streams, minimizing errors and increasing efficiency.

3. \_Real-time feedback\_: The system provides instant feedback to users, educating them on proper recycling practices.

Impact:

1. \_Increased recycling rates\_: SmartSort maximizes the amount of recyclables actually recycled, reducing waste and conserving resources.

2. \_Contamination reduction\_: Accurate sorting minimizes contaminants, producing higher-quality recyclables and increasing their value.

3. \_Improved user experience\_: SmartSort makes recycling easier, more efficient, and educational, encouraging greater community participation.

This innovation has the potential to transform the recycling industry, making it more effective, efficient, and user-friendly.

SmartSort is designed to address common challenges in recycling, such as:

1. \*Contamination\*:

2. \*Inefficiency\*:

3. \*Lack of education\*:

By making recycling more efficient, accurate, and accessible, SmartSort aims to increase recycling rates, reduce waste, and promote sustainability.

Contamination is a significant challenge in recycling, and SmartSort addresses it in several ways:

1. \*Advanced scanning\*: SmartSort's high-resolution cameras and sensors detect contaminants like food residue, liquids, or non-recyclable materials, identifying them as non-recyclable.

2. \*AI-powered sorting\*: The system's machine learning algorithms are trained to recognize patterns and anomalies, allowing it to detect and separate contaminated materials with high accuracy.

3. \*Automated sorting\*: SmartSort's automated sorting process minimizes the risk of human error, reducing the likelihood of contaminated materials entering the recycling stream.

4. \*Real-time feedback\*: The system provides instant feedback to users, educating them on proper recycling practices and how to avoid contamination.

5. \*Data analysis\*: SmartSort's data analytics help identify common contamination sources, enabling recycling programs to target education and outreach efforts more effectively.

By addressing contamination, SmartSort helps ensure that recyclables are actually recycled, reducing waste and the environmental impacts associated with extracting, processing, and transporting raw materials.

Some examples of contaminants that SmartSort can detect and sort out include:

- Food waste

- Liquids

- Glass fragments

- Plastic bags

- Styrofoam

- Batteries

- Electronics

By removing contaminants from the recycling stream, SmartSort helps produce higher-quality recyclables that can be transformed into new products, reducing waste and supporting a more circular economy.

Of course this is all hypothetical and my little way of writing down my thoughts and if given an opportunity I would like to think that It would be one of the things I would delve right into.