**Start:** Activate Trashobot to initiate the cleaning process.

**Locate Objects:** Utilize the camera to scan the surrounding area for potential objects.

**Classify Objects with ML Algorithms:** Use images from camera and machine learning algorithms to analyze and classify the objects detected.

**Trash Detection:**

If Yes (Trash Detected):

* Approach Trash: Navigate towards the identified trash, using sensors to safely maneuver around obstacles.
* Pick Up Trash: Utilize the 6DOF Robotic Arm to accurately grasp and lift the trash.
* Place Trash in Bin: Deposit the collected trash into the onboard bin or designated disposal area.
* Continue Cleaning: Resume scanning the environment for more trash.

If No (No Trash Detected):

* Navigate to a Different Location: Use sensors to guide the movement to a new area, ensuring obstacle avoidance.
* Repeat Classification Process: Re-employ the camera to locate objects in the new sight and classify them using ML algorithms.

**Cycle Repeats:** The process loops, continuously seeking, classifying, and disposing of trash until the cleaning task is complete.