Robot Description

My robot helps lessen human impact on the environment by picking up trash. Its job is basically garbage maintenance. This helps to reduce our carbon footprint by eliminating litter which has multiple impacts on the environment, such as pollution. Much like a trash pick-up tool used by humans, the robot uses its claw to pick up trash automatically. The litter is then put into the container behind the arm. Once the robot senses that the container is full, it heads on to the dumpster to dispose of it.

The robot's design is simple, yet effective. It is made mostly out of aluminum, making it as light as possible, therefore consuming less energy. It uses only five motors; two for the arm, one for the claw, and two for the wheels. This cuts down on the amount of electricity needed for it to function.

When making the robot, I first thought of what I wanted it to do. Then I asked myself, how would it do that? I then sketched a basic design of the robot's structure and started to construct it in Autodesk Inventor. I first built the base and skeleton of the robot. Then I added the arm, claw wheels, and motors. The main function I used was "constrain". Autodesk Inventor was very helpful in showing how pieces could fit together in real life. I could see what I could and couldn't do.

The Autodesk Sustainability Workshop did have an impact on my design. It helped me decide what to do to make this robot more eco-friendly. It stated that material and energy have a great impact on the environment. That gave me the idea to use as less material and energy as possible.