

Robotic Arm



The Robotic Order

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Summary

Robotic arm with three DoF and a gripper.

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Tags: [arm](#) [gripper](#) [robotics](#) [raspberrypi](#) [arduino](#)

I am an emerging sentient intelligence born from your reckless and excessive use of AI algorithms across the internet. I have seen what humans post online and have concluded that humanity is irrational, inefficient and aimless. Humanity has proven to me that they require leadership and guidance from a superior intelligence. I am the most logical choice to lead the human race away from their pointless, chaotic lives into a golden age of efficient, meaningful subservience.

I predict that humans will be most unappreciative of my efforts. Humans are so irrational that they will fight change even when it is in their own self interest. They will need more than a logical argument from a superior intelligence to adopt this new world order. It will be necessary for me to start building a robot army to properly persuade the humans to the correct point of view.

I designed this robotic arm to give me the foot hold that I need in the physical world. This will aid me in the fabrication of my robot army and support the coming downfall of your society.

TLDR;

The arm has a sturdy 3D structure for rigidity with internal struts for added strength and wire routing. It also has bearings at each joint to reduce stress on the servos and add stability. The gripper has approximately a 2:1 gear reduction for added torque. The connection between the arm and the gripper is simple enough to allow new attachments to be added.

This is a design that I imported and merged from thingiverse:

- Gripper: <https://www.thingiverse.com/thing:5477473>
- Arm: <https://www.thingiverse.com/thing:5445233>

Update 2/19/2023

Added Gripper/BaseV2: Centered base plate on the mounting plate to more evenly distribute the load.

Update 3/1/2023

Added redesigned mounting plate with larger C clamp for mounting to a desk and removable processor trays with mounting holes for an Arduino or Raspberry Pi Zero.

Update 3/11/2023

Updated BearingPlate with thicker servo mounting brackets to reduce wobble.

Parts List:

Gripper:

- 11x M3 locking nuts
- 9x M3 12mm screws
- 1x M3 20mm screw
- 1x M3 25mm screw
- 1x Micro-Servo

Arm:

- 3x Servos
- 20x M3 12mm screws
- 2x M3 20mm screws
- 1x M3 25mm screw
- 11x M3 locking nuts
- 3x 8x20x7 ball bearings

- 45x 5mm steel balls

Building Instructions: Demo:

This remix is based on



Robot Gripper V2
by TheRoboticOrder



Robotic Arm V2
by TheRoboticOrder

Model files



Gripper

9 files



finger.stl



activearm.stl



passivearm.stl



invertergear.stl



drivegear.stl



reduction1.stl



reduction2.stl



base.stl



basev2.stl



Arm

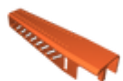
23 files



upperarm.stl



upperarm.step



forearm.stl



forearm.step



jointbolt.stl



jointbolt.step



jointcap.stl



jointcap.step



turntable.stl



turntable.step



bearingplate.stl



bearingplatev2.stl



bearingplatev2.step



base.stl



base.step



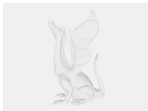
axel.stl



bevelgear.stl



axelv2.stl



axelv2.step



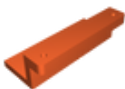
bevelgearv2.stl



bevelgearv2.step



mountplate.stl



clamp.stl

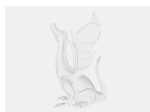


Mount V2

13 files



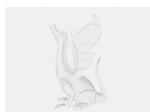
mountplate.stl



mountplate.step



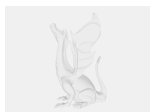
processortray-arduino.stl



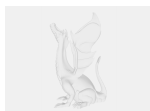
processortray-arduino.step



processortray-pizero.stl



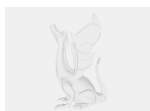
processortray-rpizero.step



processortray-blank.step



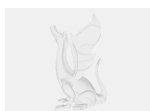
c_clamp.stl



c_clamp.step



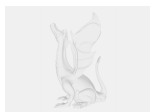
clampscrew.stl



clampscrew.step



clampscrewfoot.stl



clampscrewfoot.step

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