

ROBOT NANO HAND

THE HUMAN APPROACH TO ROBOTS

Full list of components that are required to complete a one hand build are listed below:

1 x NVIDIA Jetson Nano 4GB development kit

The NVIDIA Jetson Nano Developer Kit delivers the compute performance to run modern AI workloads at unprecedented size, power, and cost.

1x fully 3D printed hand

Either 3rd party printed or printed by yourself.

2mm ground steel pins

Five different lengths: 58 pins in total

Pin Length/mm	Total needed
10	11
16-18	16
20	10
24	21

Tendons, guides and elastics

Tendons close the fingers, elastic bands open the fingers and guides make everything run smoother for longer. Ideally use the items recommended below but substitute as needed. For example by using any braided kite or fishing line of roughly the right diameter you already have to hand.

Sufix 832 SuperBraid

5m - White 80lbs breaking strain

PTFE tube

30cm x PTFE tubing AWG 18s 2mm OD, 1mm ID

Elastic bands

Around 15mm diameter when unstretched and no more than 3mm wide in latex or polyurethane - sold as hair bands for humans and horses!

1 x fully 3D printed hand

All the parts printed online or by yourself or get started as soon as you have enough to make a finger!

SCS0009 Micro Servo

10 X SCS0009 - Fingers and thumb

SCS15 SERVO

1 x SCS15 SERVO

FE-URT-1 BOARD

USB board for reprogramming the servos (Feetech)
Servos

Micro USB cable

1x Micro USB cable

All servos used have been sourced from a company called feetech.

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Cameras

One camera is located with in the palm of the robotic hand.

Raspbery PI V2 Camera

1x Raspbery PI V2 Camera

Camera cable

1 x 30cm Raspbery PI V2 camera cable - the standard cable supplied with the camera is not long enough
Power Supplies

Two power suppliers are needed to operate the hand correctly. One to power the NVIDIA jetson Nano development kit and other to power the servos

5V 4A Universal Power Supply

1x 5V 4A Universal Power Supply for NVIDIA Jetson Nano development kit.

2.5mm Barrel jack

1x Barrel jack with flying leads for URT board, connects to UPS above

6v 6A Universal Power Supply

1 x 6v 3A minimum Universal Power Supply for the servos - or use the same as for the nano with slightly slower servo movments

Jumper

1 x Jumper - To enable power jack on development kit.

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www.robotnanohand.com