Printables by JOSEF PRUSA

Otto Ninja™ Starter robot

Otto DIY

VIEW IN BROWSER

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Summary

Unique robot that walks and transforms into a wheeled racer! made by Sebastian Coddington.

11.12 hrs	4 pcs	0.20 mm	0.40 mm	PLA	126 g	Prusa MINI / MINI+

Hobby & Makers > RC & Robotics

Tags: robot stem arduino esp8266 esp32 ninja ottodiy edtech

Build your own robot like a Ninja 😺 This is the first emotional modular EdTech Arduino robot that can walks & rolls!

Features

- **Walk & dance**
- **Transforms quickly into a wheeled robot**
- Simple Programming with Otto Blockly or Arduino
- ⚙ Metal high performance quality gear servos

- Expandable and modular
- Avoid obstacles with ultrasonic sensor
- LED matrix emotional eyes to swap
- Can swap to OLED eyes
- Makes emotional sounds and melodies
- Button for interactions
- **Wireless communication – for remote controlling**
- **IoT & Wi-Fi**
- **Rechargeable battery & quick switch**

List of Parts

- Otto Ninja PCB ESP8266
- Micro USB cable Data Sync 1 m
- Battery 6F22 Rechargeable Lithium
- 9V 650mAh with micro USB port
- Switch + Regulator + XH connector + Bat connector soldered
- 2 x Ninja Servo 180° metal gears (it comes with 3 screws)
- 2 x Ninja Servo 360° continuous rotation metal gears (it comes with 3 screws)
- 2 x Oring 68 mm OD 60 mm ID 4 mm
- Ultrasonic sensor HC-SR04
- Button with headers
- 4pin Dupont cable with connector
- 2 x 3pin Dupont cable with connector
- Buzzer with headers
- Screwdriver Phillips 2.5X40mm (with magnetic tip)
- 4 x Metal self-tapping screw M2*5 (they must be ferromagnetic)
- Matrix 16x8 LEDs HT16K33
- OLED display 1.3¨ (**OPTIONAL)**
- 3D printed Ankle Left Black
- 3D printed Ankle Right Black
- 3D printed Base Black
- 2 x 3D printed Foot Black
- 3D printed Inner Bottom Black
- 3D printed Legs Black
- 3D printed Starter Lid Black
- 3D printed Plate Matrix Lid Black
- 3D printed Plate Ultrasonic Lid Pink
- 3D printed Band Red

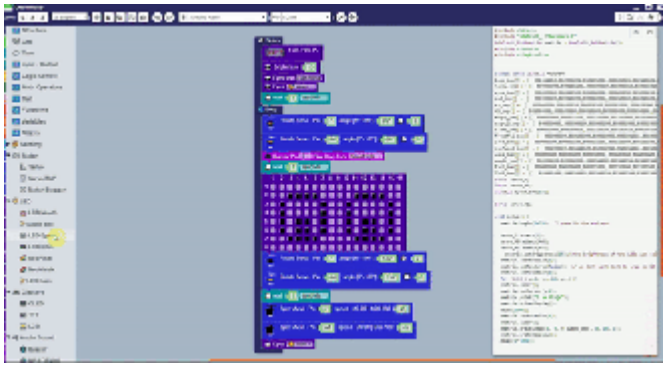
Build out of the box

What can Otto Ninja do?

Otto Ninja can walk, transform, roll, show emotions, dance, sense motion & objects

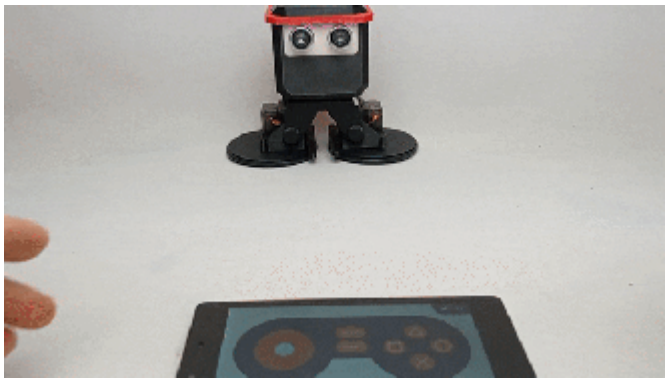
Coding from beginner to advanced

Program Otto Ninja to think on its own using block-based coding with Blockly or C++ with Arduino IDE.



Want to just play?

Via the kit's **wireless communication** module, remote control your Otto Ninja by connecting to your mobile or tablet to race or have fun battles!



Print instructions

If you bought a Builder kit you can skip ahead but if you have the Maker kit you have to 3D print the parts, but Otto is very well-designed for 3D printing, so won't give you trouble if you follow this common parameters:

Recommended using an FDM 3D printer.
No need of supports or rafts.
Resolution: 0.2 mm or less
Fill density 15%

How to build 3D guide here in this linkHow to Code guide here in this link

Be a part of this friendly community of robot builders, teachers and makers.
Welcome to our Otto Builder community!

Otto DIY invests lots of time and resources providing open source code and hardware,
please support by purchasing great robotics kits from our website in this link

or at least give us a ❤ like and share...

This remix is based on

Otto DIY build your own robot
by Otto DIY

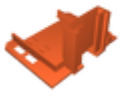
Otto DIY Wheels robot
by Otto DIY

Otto DIY Smart OLED robot
by Otto DIY

Otto DIY Emotional LED eyes robot
by Otto DIY

Model files

otto-diy_ninja_lid.stl



otto-diy_ninja_innerplate.stl

otto-diy_ninja_head.stl

otto-diy_ninja_legs.stl

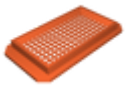
otto-diy_ninja_leg-right.stl

otto-diy_ninja_leg-left.stl

otto-diy_ninja_footwheels-x2.stl

☐ 3D print 2

otto-diy_ninja_plate-ultrasonic.stl



otto-diy_ninja_plate-matrix.stl

otto-diy_ninja_plate-oled.stl

☐ OPTIONAL

otto-diy_ninja_band.stl

Print files

otto-diy_ninja_mainbodyparts_02mm_pla_mini_8h46.gcode

PLA 0.40 mm 0.20 mm 8.76 hrs 96 g Prusa MINI / MINI+

Main Body parts in black

otto-diy_ninja_foot-x2_02mm_pla_mini_1h12m.gcode

PLA 0.40 mm 0.20 mm 1.20 hrs 18 g Prusa MINI / MINI+

Feet/ Wheels in black

otto-diy_ninja_plates_02mm_pla_mini_41m.gcode

PLA 0.40 mm 0.20 mm 0.69 hrs 8 g Prusa MINI / MINI+

Modular eyes plates in Pink

otto-diy_ninja_band_02mm_pla_mini_28m.gcode

PLA 0.40 mm 0.20 mm 0.47 hrs 4 g Prusa MINI / MINI+

Ninja band in red

Find source .stl files on Thingiverse.com

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