

Introduction to PiCarPro

1. About PiCar Pro products

PiCar Pro is a kind of open source intelligent robot product that is intended for AI and robot lovers and students. It is also an open robot development platform based on Raspberry Pi with the following features:

Easy to assemble: modular structure design, open hardware list and detailed assembling tutorial.

Easy to learn: provide complete and detailed development tutorials and sample code on algorithm and application.

Multi-configurations: can be changed into different types of trolleys through different combinations, for example, the manipulator trolley and ultrasonic trolley.

Multi-functions: automatic obstacle avoidance, color recognition, moving object detection, web remote control, OLED display, lighting indicator, and line tracking with the tracking module.

Aluminum alloy structure: strong and durable.

Extensible: extensible structure and DIY.

Web remote control: the robot can be controlled by mobile phones, tablets, computers, windows, Linux, and Mac OS via Google Chrome browser.

Support Raspberry Pi in different versions: support Raspberry Pi 3B, Raspberry Pi3B + and Raspberry Pi 4.

Support Python

2. Robots of PiCar Pro in two configurations

PiCar Pro can be assembled into the robots in two different configurations, including the manipulator configuration and the ultrasonic configuration.

2.1 Manipulator mode

The functions of PiCar Pro manipulator include grabbing objects and visual line tracking, color recognition, moving object detection, Web remote control, OLED display, and lighting indicator; PiCar Pro is equipped with a decelerating DC motor as a power unit with the advantage of fast speed ; the large wheels allow PiCar Pro to gain the excellent off-road performance and be suitable to the complex ground; the trolley can be controlled to grab the items by controlling the high and low levels of the corresponding GPIO ports of the program. It is easy for the new makers to learn and use the controlling methods of such kinds of trolley products;



2.2 Ultrasonic mode

The functions of PiCar Pro include the visual tracking and ultrasonic tracking, automatic obstacle avoidance, color recognition, moving object detection, web remote control, OLED display, and lighting indicator; PiCar Pro is equipped with a decelerating DC motor as a power unit with the advantage of fast speed ; the large wheels allow PiCar Pro to gain the excellent off-road performance and be suitable to the complex ground; the motor rotation can be controlled by controlling the high and low levels of the corresponding GPIO ports of the program. It is easy for the new makers to learn and use the controlling methods of such kinds of trolley products;

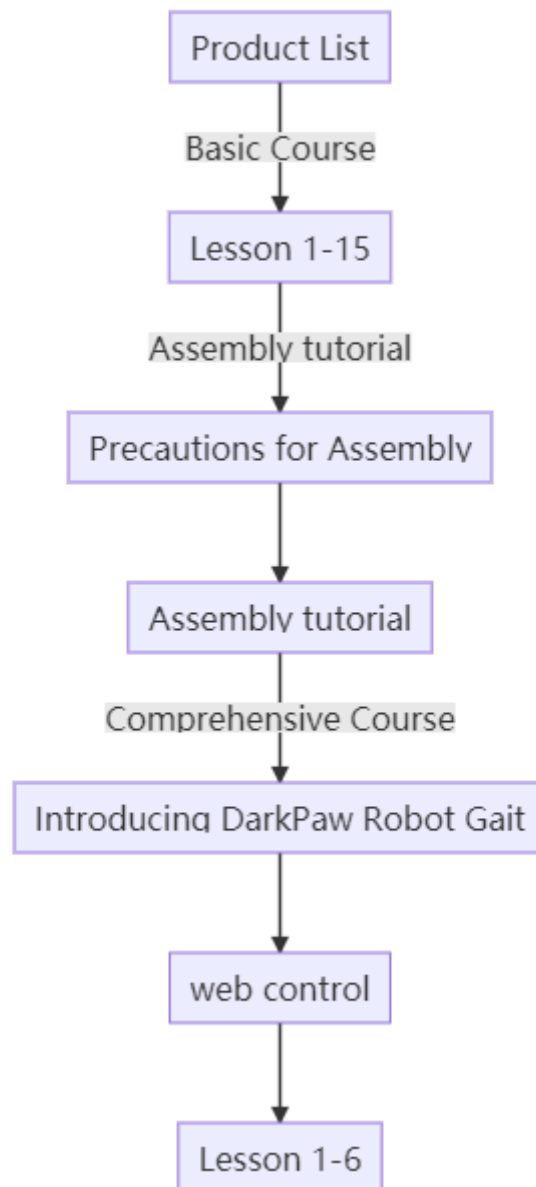


3. About The Tutorials

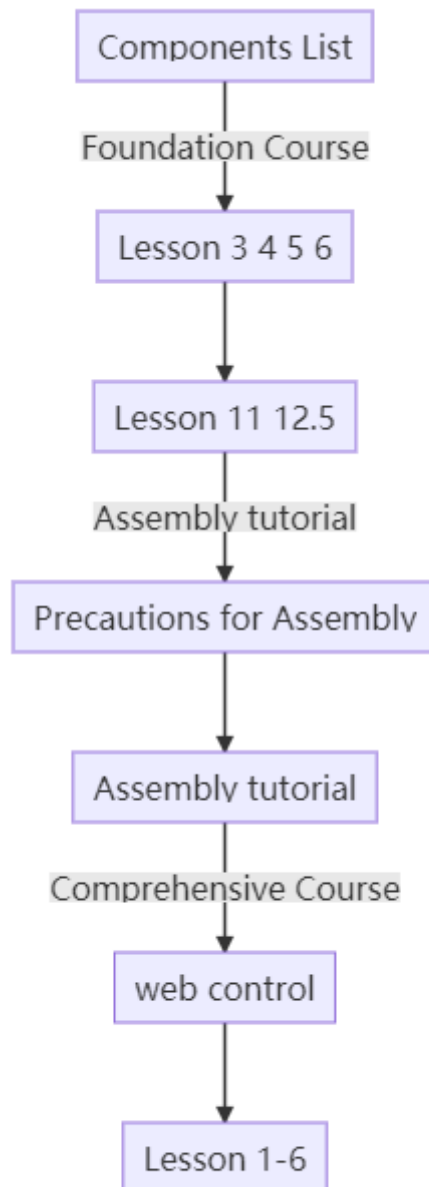
This documentation is for software installation and operation guide for the Python robot product. It describes every detail of the whole process of fulfilling the robot project by Python and Raspberry Pi from scratch as well as some precautions. Hope you can get started with the Raspberry Pi robot on Python and make more creations with this documentation.

According to the different situations of different users, there will be some changes in the process of this document, you can refer to the following process:

- **Novice use flowchart:** Suitable for users who are new to Raspberry Pi or want to learn more about the functions of parts.



- Flow chart for users familiar with Raspberry Pi or want to make this robot quickly:



3. Resources Links

[RobotName]: Adeept_PiCarPro

[RobotURL]: https://github.com/adeept/adeept_picarpro

[RobotGit]: https://github.com/adeept/adeept_picarpro.git

[Official Raspberry Pi website]: <https://www.raspberrypi.org/downloads/>

[Official website]: <https://www.adeept.com/>

[GitHub]: https://github.com/adeept/adeept_picarpro/

[Image file and Documentation for structure assembly]:

<https://www.adeept.com/learn/detail-50.html>