Elephant Robotics 大象机器人

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myCobot AI Kit

人工智能套装

myCobot Artificial Intelligence Kit

⚠ Warning

BEFORE USING MYAGV READ ALL INSTRUCTIONS AND CAUTIONARY MARKINGS IN THIS MANUAL

1. Do not expose the product to rain or moisture to reduce fire or shock hazard.
2. Do not place the product in or near fire.
3. Do not leave the product in a car in hot or humid weather.
4. Do not disassemble, crush or pierce the product.
5. Do not expose the product to excessive shock such as dropping from a high place.
6. Do not expose the product to high temperatures above 60 °C (140 °F).

⚠ Attention

Regarding the operation and secondary development of myCobot artificial intelligence kit, please read and download **Gitbook** before using it.

Official Website： https://www.elephantrobotics.com/en/mycobot-artificial-intelligence-kit/

myCobot
Artificial Intelligence Kit

- ■ Color recognition
- ■ Image recognition
- ■ Positioning grabing
- ■ Automatic sorting

myCobot - Artificial Intelligence Kit

myCobot artificial intelligence kit is an entry-level artificial intelligence suit integrating vision, positioning and grabbing, and automatic sorting modules. Based on the Linux system, build a 1:1 simulation model in ROS, which can realize the control of the robotic arm through the development of software. It is simple and easy to learn. It can quickly learn the basics of artificial intelligence, inspire innovative thinking, and comprehend the open-source creative culture.

The suit has good scalability and high openness and can be used for multiple purposes. It is easy to use the training platform of colleges and universities, the construction of robotics disciplines, the robotics laboratory or personal learning and use.

Eye-to-hand

Color and image recognition: Using deep learning algorithms,users can use robotic arms to complete positioning, grabbing and automatic sorting.
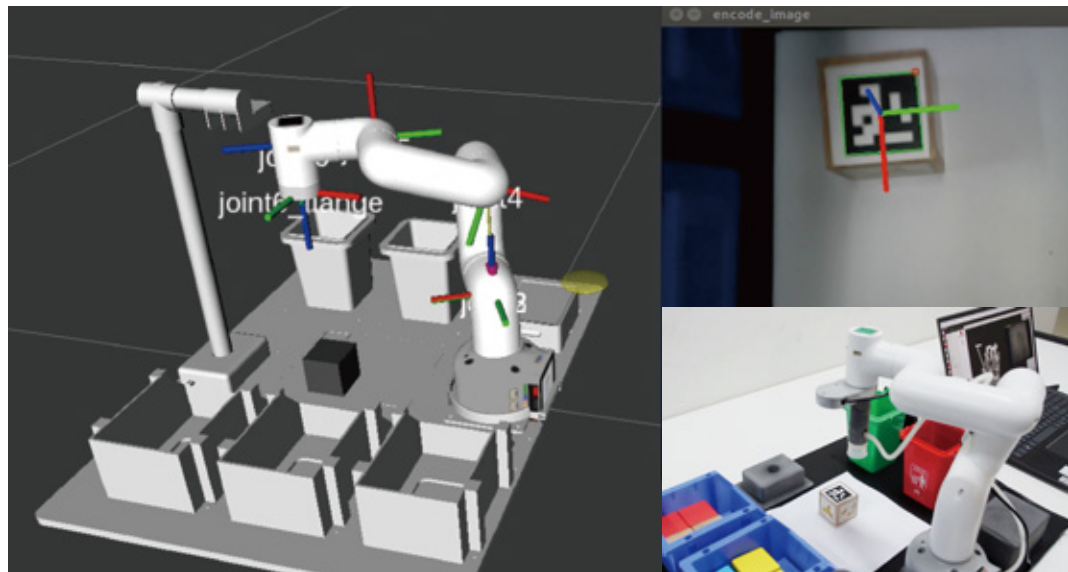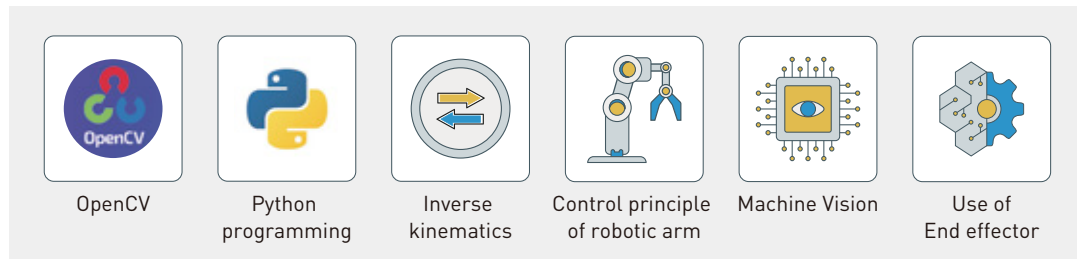

Eye-in-hand

Aruco code detection and tracking: precise positioning and calibration of the camera, and automatic capture

Rich teaching Demo, intuitive and efficient

With rich teaching demos such as color recognition, image recognition, and aruco code recognition, it helps users to understand the basic composition and working principle of the robot artificial intelligence vision kit more clearly and intuitively.

What you will learn?

| OpenCV | Python programming | Inverse kinematics | Control principle of robotic arm | Machine Vision | Use of End effector |

- Ros
- opencv
- python programming

- 6 DOF robot control principle
- End-effector control
- AI machine vision and artificial intelligence

- LCD display control
- Smart sensor detection (color, image, aruco code)

Parameter

Vision module	
Name	USB non-distortion lens
Size	18X18X20mm
Maximum pixels	YUV, MJPEG
Pixel size	3.4umX3.4um
Maximum frame rate	1280x720 @ 25fps
USB protocol	USB2.0 HS/FS

Vision module	
USB protocol	USB2.0 HS/FS
Supported resolution	1280X720, 640X480, 320X240
Power supply	DC5V 90mA
Lens focal length	standard 1.7mm
Field of view angle	≈60°
Supported systems	Win7/8/10, Linux, MAC

myCobot

人工智能套装

- 🟩 颜色识别
- 🟦 图像识别
- 🟥 定位抓取
- 🟨 自动分拣

人工智能套装

myCobot人工智能套装是集视觉、定位抓取、自动分拣模块为一体的入门级人工智能套装。基于Linux系统，在ROS搭建1：1仿真模型，可通过开发软件实现机械臂的控制，简单易学，能够快速入门学习人工智能基础知识，启发创新思维，领悟开源创意文化。

本套装扩展性好，开放性高，可以被用于多种用途。可易用专科院校的实训平台、机器人学科搭建、机器人实验室或个人学习与使用。
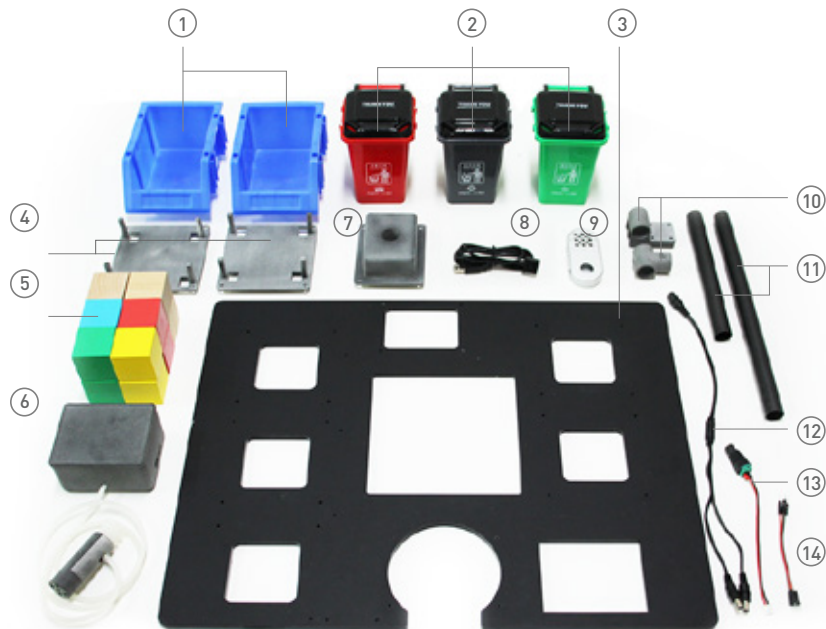

Eye-to-hand

颜色及图像识别： 应用深度学习算法，用户可以利用机械臂完成定位抓取和自动分拣

Eye-in-hand

Aruco码的检测、跟踪： 摄像头精确定位与标定，并进行自动抓取

Kit Components

1. Material box
2. Trash Bins
3. Artificial intelligence kit_ Bottom Plate
4. Material box stand
5. Square (provide sticker)
6. Suction pump
7. Vision module_ Base stand
8. Vision module_ camera

9. Vision module_ Camera flange
10. Vision module_ Camera bracket
11. Vision module_ Fibre tube

12. Suction pump connecting line_ Power distribution
13. Suction pump connecting line_ power cord
14. Suction pump connecting line_ DuPont line

⚠ 警告

在使用本产品之前，请阅读本手册中所有说明及警告提示。

- 为避免火灾或电击危险，请勿将产品暴露在雨中或潮湿的地方。
- 请勿将产品放在火中或靠近火处。
- 请勿将本产品放置或使用在炎热潮湿的地方。
- 请勿暴力拆卸本产品。
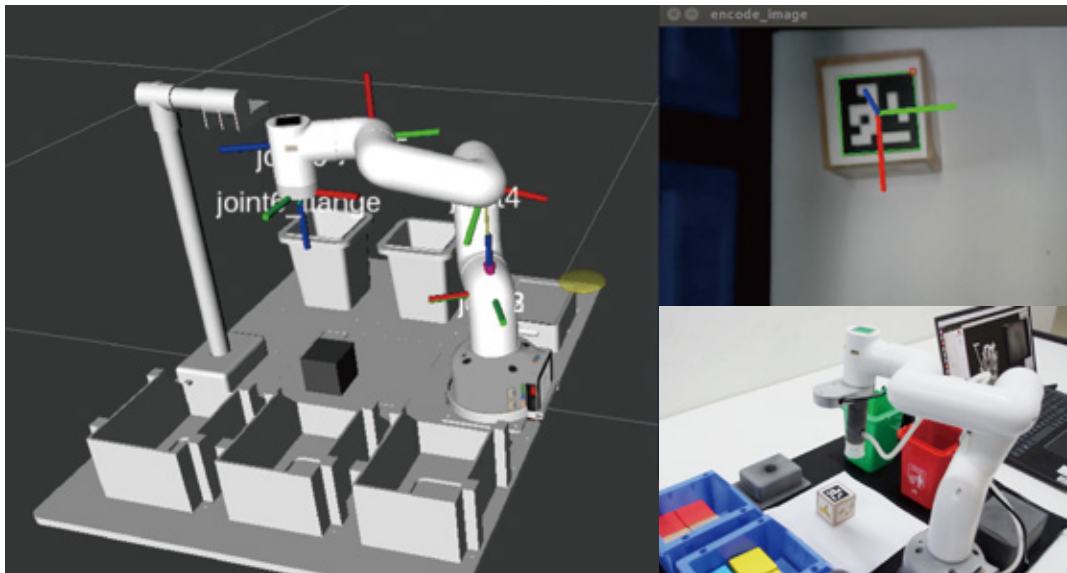- 请勿将产品暴露在过度的冲击下，如从高处跌落。
- 不要将产品暴露在超过60℃(140℃F)的高温下。

⚠ 开机必读

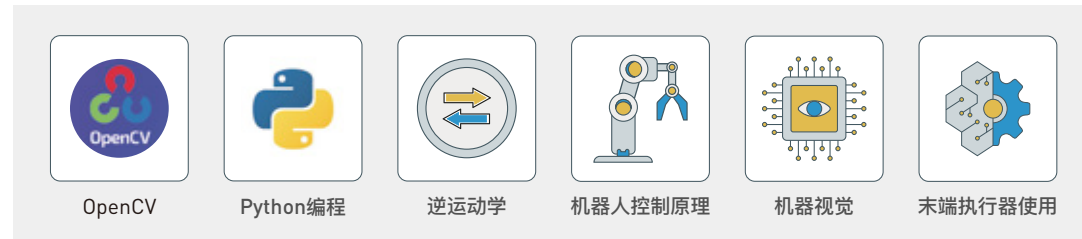本册为myCobot人工智能套装产品画册

关于本产品的操作使用及二次开发，请先在大象机器人官网阅读并下载Gitbook相关指导说明.

下载链接：https://www.elephantrobotics.com/artificial-intelligence-kit/

丰富的教学Demo，直观高效

具备颜色识别、图像识别、aruco码识别等丰富的教学Demo，帮助用户更清晰直观地了解机器人人工智能视觉套装基本组成和工作原理

你可以学到什么？

| OpenCV | Python编程 | 逆运动学 | 机器人控制原理 | 机器视觉 | 末端执行器使用 |

- Ros
- Opencv
- Python编程
- 6自由度机器人控制原理
- 末端执行器使用
- AI机器视觉与人工智能
- LCD显示器控制
- 智能传感器检测（颜色、图像、aruco码）

产品参数

视觉模块	
名称	USB无畸变镜头
尺寸	18X18X20mm
最大像素	100万 1280X720
支持图像格式	YUV、MJPEG
像元尺寸	3.4umX3.4um
最高帧率	1280x720 @ 25fps

视觉模块	
USB 协议	USB2.0 HS/FS
支持的分辨率	1280X720,640X480,320X240
电源供应	DC5V 90mA
镜头焦距	标配1.7mm
视场角度	约60°
支持的系统	Win7/8/10、Linux、MAC

人工智能套装

1. 物料盒
2. 垃圾桶
3. 人工智能套装_底板
4. 物料盒支架
5. 方块（提供贴纸）
6. 吸泵
7. 视觉模块_底座支架
8. 视觉模块_摄像头
9. 视觉模块_摄像头法兰
10. 视觉模块_摄像头支架
11. 视觉模块_纤维管
12. 吸泵连接线_电源分线
13. 吸泵连接线_电源线
14. 吸泵连接线_杜邦线
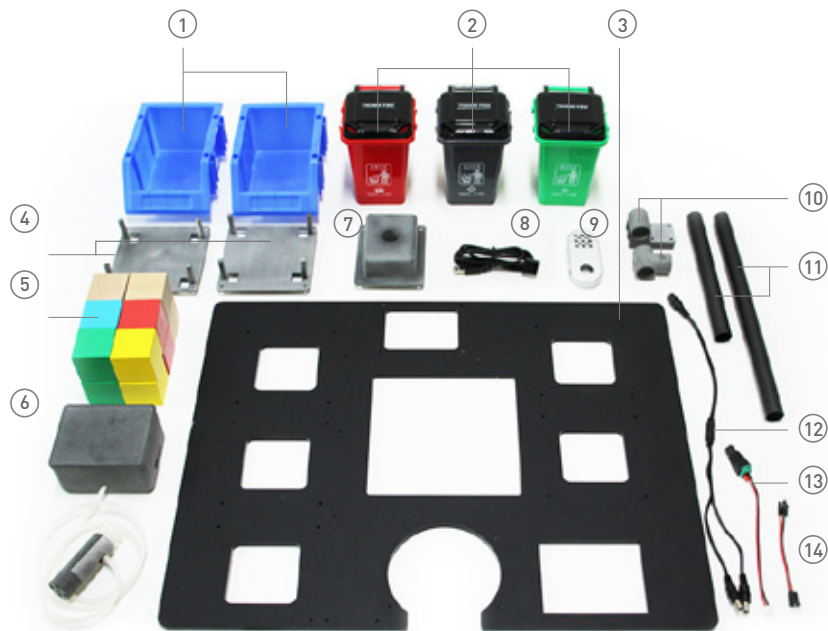
产 品 保 修 卡

用户信息（必填）：

购买人 _____ 订单号 _____ 联系电话 _____

地址 _____ 物流签收日期 _____

产品问题描述（必填）： _____

如需退换货，请事先联系客服确认退回相关信息。待客服确认后，填写此卡并将这一页随同产品一起寄回。
注：我司在法律允许范围内保留对本产品保修卡解释和修改的权利。

- 产品自签收起7日内未拆封可无理由退换，因产品退换所产生的费用及其他风险需由客户承担。
- 用户如需产品保修服务需提供相应的购买单据及产品保修卡作为保修凭证。
- 凡属于正常使用下由于产品本身质量问题引起的硬件故障，保修期内大象机器人给予免费维修。
- 保修起始日期为产品购买日或物流签收日。
- 维修更换的配件归大象机器人所有，必要时会收取适当的成本费用。

以下为详细的配件保修服务说明(如需以下产品售后服务，请事先联系客服沟通并确认相关信息)

电子件

保修期限	保修服务
≤3个月	由用户拆卸后寄回，我司免费更换并承担往返运费(仅一次)
3-6个月	由用户拆卸后寄回并承担往返运费，我司免费更换(仅一次)
≥6个月	客户需自己重新购买

结构件

保修期限	保修服务
≤1年	我司免费提供新的零件，由客户自行承担运费(仅一次)
≥1年	客户需自己重新购买

特别说明: 在交付产品的保修期内，本公司仅对正常使用机器人时发生的故障进行免费修理。

但在以下情况下，将对客户收取修理费用(即使在保修期内):

(1) 因不同于手册内容的错误使用以及使用不当而导致的损坏或故障

(2) 客户未经授权进行拆卸导致的故障

(3) 属于外壳等部件自然的消耗，磨损及老化

(4) 因调整不当或未经授权进行修理而导致的损坏

(5) 因地震、洪水等自然灾害导致的损坏

因此，请严格遵照本手册及相关手册的指示对机器人进行操作。

WARRANTY CARD

Customer Information (Required):

Purchaser _____ Order No. _____ Phone _____

Address _____ Logistics Receipt Date _____

Product problem description(Required):

_____

If you need to apply for warranty service, please contact our customer service to confirm the detailed information. After confirmation, please fill in the card and send it back together with the product and the attached invoice. **Note: Our company reserves the right to explain and modify the warranty card of this product within the scope of the law.**

- Return service is limited to goods not opened within 7 days after the receipt date of logistics of the products. The freight or other risks incurred in return shall be borne by the customer.
- Customers should provide the purchasing invoice and warranty card as the warranty certification when a warranty is being asked.
- Elephant Robotics will be responsible for the hardware faults of products caused by the normal using during the warranty period.
- The warranty period starts from the date of purchase or the receipt date of the logistics.
- The faulty parts from the products will be owned by Elephant Robotics, and the appropriate cost will be charged if necessary.

If you need to apply for warranty service, please contact our customer service first to confirm the detailed information.

Electrical Parts	
Warranty Period	**Warranty Services**
≤3 months	Customers need to send it back after disassembly, Elephant Robotics shall send a new one for free and bear the freight out and home.
3-6 months	Customers need to send it back after disassembly and bear the freight out and home, Elephant Robotics shall send a new one for free.
≥6 months	Customers need to buy it themselves.
Structure Parts	
≤1 year	Elephant Robotics offers free new components once, customs shall bear the freight.
≥1 year	Customers need to buy it themselves.

During the warranty period of the delivered product, the company only repairs the malfunctions that occur during normal use of the robot for free. However, in the following cases, the customer will be charged for repairs (even during the warranty period):
- Damage or malfunction caused by incorrect use and improper use different from the contents of the manual.
- Failure caused by unauthorized disassembly by the customer.
- Damage caused by improper adjustment or unauthorized repairs.
- Damage caused by natural disasters such as earthquakes and floods.

Therefore, please strictly follow the instructions in this manual and related manual to operate the robot.