TikTok

视频号
WeChat Channels

TSCINBUNY

抖音号

https://tscinbuny.cn/ https://www.tscinbuny.net

19867758508、18928489558 、18598034925

深圳市龙岗区吉华街道甘李路1号巨银科技工业园E5栋4楼

4/F, Building E5, Jihua , Longgang , Shenzhen , China

深圳市智懿科技有限公司
SHENZHEN ZHIYI TECHNOLOGY CO., LTD.

TSCINBUNY

具身智能 AI赋能
Embodied intelligence AI empowerment

为未来科技人才助力
Empowering talents for future technology

硬件 编程 教育
Hardware Programming Education

专为学校、教育机构而设计

Designed specifically for schools and educational institutions

电子硬件 | 机器人小车 | 学习套件 | 配套课程 | 专业定制

Electronic hardware | Robot car | Learning kit | Supporting courses | Professional customization

TSCINBUNY

TSCINBUNY位于中国科技创新的核心——深圳，被誉为中国“硅谷”。自2020年成立以来，我们始终坚持以用户需求为导向，将创新作为公司发展的核心动力。TSCINBUNY致力于为电子和编程爱好者打造丰富的产品线，包括嵌入式编程教育配件、入门编程工具包、机器人小车以及配套的课程，旨在满足不同用户的需求。

公司在短短5年间，凭借卓越的产品与服务，赢得了全球市场的青睐。 我们的产品远销美国、英国、德国、法国、沙特阿拉伯等多个国家，并赢得了广泛的国际赞誉与客户信赖。我们与国际上的多所学校和教育机构合作，受到了众多师生、家长及创客的喜爱。

TSCINBUNY拥有一支由行业专业技术人才组成的研发团队，我们对科技充满热情与执着，不断攻克技术难关，确保我们的产品质量和服务保持在行业的高水准。 同时，经验丰富的销售团队随时准备为客户提供全方位的专业服务，确保每次合作都高效、顺畅。

目前，我们的工厂占地超过2000平方米，拥有80余名优秀员工。 在先进的生产设备支持下，工人们精心制造每一件产品，确保卓越的品质。 此外，我们还提供定制服务，无论是PCB设计、PCBA、编程套件、机器人还是配套课程，均可根据客户需求量身打造。

TSCINBUNY秉持创新与品质至上的理念，在科技的海洋中勇敢前行。 我们期待为您带来更多科技新可能，携手共创未来！

TSCINBUNY is located in Shenzhen, China’s Silicon Valley and hub of technology and innovation.Founded in 2020, we focus on user needs and take innovation as our core driving force.We provide a full range of products for electronics and programming enthusiasts, including educational accessories, programming kits, robot cars, and supporting courses.

In just five years, our products have been well received worldwide, exported to the United States, United Kingdom, Germany, France, Saudi Arabia, and other countries.We cooperate with many international schools and educational institutions, and are highly trusted by teachers, parents, students, and makers.

We have a professional R&D team committed to breaking through technical challenges and maintaining high product quality.

Our experienced sales team provides efficient and professional service for global customers.Our factory covers more than 2,000 square meters with over 80 employees. Supported by advanced production equipment, we ensure stable and reliable quality.

We also offer customized services, including PCB design, PCBA, programming kits, robots, and courses.

Adhering to the philosophy of innovation and quality first, TSCINBUNY keeps moving forward in the field of technology.

We look forward to exploring more possibilities together with you and creating a better future.

为未来科技人才赋能
Empower future technology talents

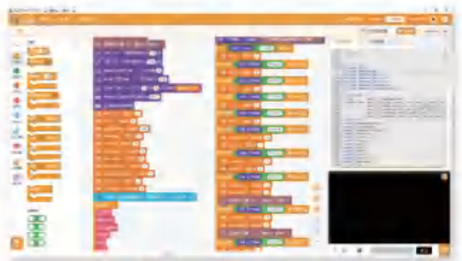
在教育现代化与智能化发展趋势下，TSCINBUNY 为学校及教育机构提供创新硬件与机器人编程学习解决方案，并配套专业课程体系，以趣味化产品与教学激发学生创造力与逻辑思维，助力掌握未来核心科技能力，提升学习兴趣，为长远发展奠定坚实基础。

Against the trend of modernized and intelligent education, TSCINBUNY provides innovative hardware and robotics programming solutions for schools and educational institutions, together with professional courses.
Our engaging products and teaching inspire students' creativity and logical thinking, help them master core future tech skills, boost learning interest, and lay a solid foundation for their long-term development.

因材施教：编程与搭建的难易度
Teaching students in accordance with their aptitude: The difficulty level of programming and construction

为适配不同年龄段学生需求，我们提供图形化编程、简易代码、高级文本编程等多种学习方式，循序渐进提升技术能力。同时，课程与搭建难度由浅入深，从模块化组装到复杂结构设计，让学生按自身水平学习，逐步掌握编程与硬件技能。
We provide various programming methods (graphical, simple coding, text-based programming) for students of different ages, helping them improve skills step by step.The building difficulty is also graded from basic modules to complex structures, allowing students to learn at their own level and master programming and hardware skills gradually.

编程方式
Programming way



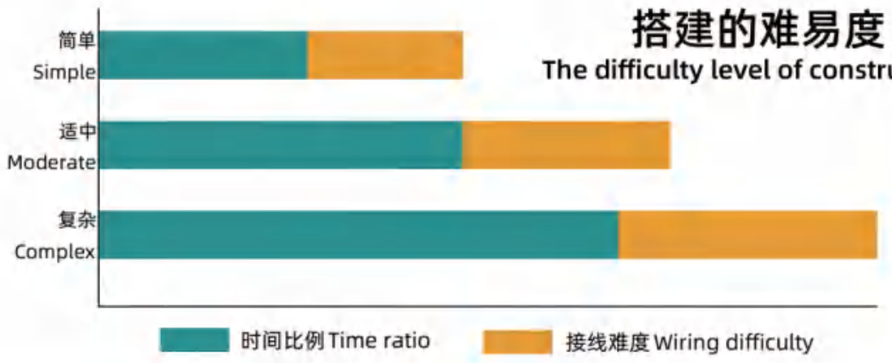
图形化编程
Graphical programming

门槛较低，适合初学者、儿童或没有编程经验的人。
通过拖放不同的代码模块（通常以积木或图标形式呈现）来构建程序，操作简便、直观，让学生更快理解编程逻辑。
It has a low threshold and is suitable for beginners, children, or people without programming experience.
Programs are built by dragging and dropping different code modules (usually presented in the form of building blocks or icons), which is easy and intuitive to operate, allowing students to understand programming logic more quickly.

代码编程
Code programming

有一定学习曲线，需要具备一定的逻辑思维和语言能力。
使用编程语言的语法规则手动输入代码，依赖文本的精确性。属于编程学习的长期发展目标，熟练掌握后，可以应用于多种编程场景和复杂项目。
It has a certain learning curve and requires logical thinking and language skills.Code is entered manually following strict syntax, relying on textual accuracy.
It is a long-term goal in programming learning. Once mastered, it can be applied to various programming scenarios and complex projects.

搭建的难易度
The difficulty level of construction



一站式AI智能教育装备

ONE-STOP AI INTELLIGENT EDUCATIONAL EQUIPMENT

从幼儿园到大学，我们打造了一条连贯的编程能力成长阶梯，覆盖图形化编程、人工智能、物联网到嵌入式仿生编程等全领域。每个阶段的产品都精准匹配认知水平与学习目标，让孩子从零基础起步，逐步成长为具备工程思维与创新能力的数字创作者。

From kindergarten to university, we have built a coherent programming ability development ladder, covering all fields from graphical programming, artificial intelligence, Internet of Things to embedded bionic programming. The products at each stage accurately match the cognitive level and learning goals, allowing children to start from scratch and gradually grow into digital creators with engineering thinking and innovative capabilities.

幼儿园
KINDERGARTEN

趣味图形化编程开启逻辑思维萌芽，在积木式搭建与互动游戏中，让孩子爱上创造，迈出编程世界的第一步。

Fun graphical programming sparks the germination of logical thinking. Through block-based construction and interactive games, children will fall in love with creation and take their first step into the world of programming.

小学
PRIMARY SCHOOL

结合图形化编程与 C/C++ 文本编程，在 AI 硬件实践中夯实工程思维与技术基础，让孩子在搭建智能模型的过程中掌握核心原理。

Combine graphical programming with C/C++ text programming, consolidate engineering thinking and technical foundations in AI hardware practice, and enable children to master core principles in the process of building intelligent models.

初中
JUNIOR HIGH SCHOOL

从图形化过渡到代码编程，深度探索物联网技术，通过传感器与通信模块的实践应用，解锁智能物联场景的创新设计能力。

Transition from graphical programming to code programming, conduct in-depth exploration of Internet of Things (IoT) technology, and unlock the innovative design capabilities for intelligent IoT scenarios through the practical application of sensors and communication modules.

高中/职高
SENIOR HIGH SCHOOL/ VOCATIONAL HIGH SCHOOL

聚焦 C/C++ 嵌入式开发，以多功能智能小车为载体，深入学习运动控制与算法优化，打造复杂智能系统，深化工程实践能力。

Focus on C/C++ embedded development, using a multi-functional intelligent car as the carrier to in-depth study motion control and algorithm optimization, build complex intelligent systems, and deepen engineering practice capabilities.

大专/大学及以上
COLLEGE/UNIVERSITY AND ABOVE

聚焦具身智能与仿生机器人，以 C 语言为核心开展高阶算法与底层编程，融合嵌入式开发与单片机硬件工程实践，专注AI大模型本地部署，赋能人工智能与机器人技术应用。

Focus on embodied intelligence and bionic robots, carry out high-level algorithms and low-level programming with C language as the core, integrate embedded development and microcontroller hardware engineering practice, focus on the local deployment of AI large models, and empower the application of artificial intelligence and robot technology.

针对不同年龄段的产品体系
Product systems for different age groups

兴趣与思维：7~9岁
Interest and Thinking: 7-9 Years Old

这个年龄段的学生处于小学阶段，他们的思维以具体形象思维为主。他们的记忆力强，喜欢通过游戏和故事的方式来学习，能够较好地完成简单的任务，但较复杂的概念和抽象的思维对他们来说仍然有难度。

Students in this age group are in primary school, and their thinking is mainly based on concrete and imagistic thinking. They have strong memory, like to learn through games and stories, and can complete simple tasks well, but more complex concepts and abstract thinking are still difficult for them.

UNO R3 基础学习套件
UNO R3 Basic Learning Kit

此款学习套件是一款为电子初学者而设计的入门工具包。
以UNO R3为主控，涵盖了温度、湿度、光强、水位等常见的物理量检测。
This learning kit is an introductory toolkit designed for electronic beginners.With UNOR3 as the main controller, it covers the detection of common physical quantities such as temperature, humidity, light intensity, and water level.

NANO 2WD 避障机器人小车
NANO 2WD Obstacle Avoidance Robot Car

此款小车套件是一款为电子初学者而设计的入门级机器人小车。
以NANO为主控，通过超声波传感器实现避障和跟随功能。
This car kit is an entry-level robot car designed for electronic beginners.With NANO as the main controller, it realizes obstacle avoidance and following functions through ultrasonic sensors.

UNO R3 多功能机器人小车
UNOR3 Multifunctional Robot Car

此款小车套件是一款为电子初学者而设计的初级机器人小车。
以UNO R3为主控，实现线路寻迹、避障和跟随等功能。
This small car kit is a basic robot car designed for electronic beginners.With UNOR3 as the main controller, it can realize functions such as line tracking, obstacle avoidance and following.

TSCINBUNY 产品体系

针对不同年龄段的产品体系
Product systems for different age groups

逻辑与分析：9~15岁
Logic and Analysis: 9-15 years old

这个年龄段的学生逐渐发展出较强的逻辑思维和分析能力。他们能够理解抽象概念，学习内容从具体事物过渡到更复杂的理论和规律。他们的自我意识开始增强，开始对学习产生更多的自主性。

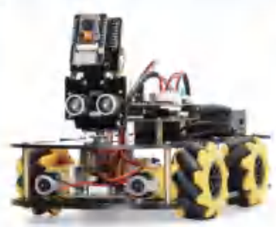
Students in this age group gradually develop strong logical thinking and analytical abilities. They can understand abstract concepts, and their learning content transitions from concrete things to more complex theories and laws. Their self-awareness begins to strengthen, and they start to have more autonomy in learning.

智能木屋学习套件
Smart Wooden House Learning Kit

此款学习套件是以木屋为主题拓展开的全方位学习套件。以NANO为主控，可用蓝牙和红外遥控，拥有丰富的学习功能。
This learning kit is an all-round learning kit developed with the theme of a wooden house. It uses NANO as the main controller, can be controlled via Bluetooth and infrared, and has rich learning functions.

树莓派 Pico 麦轮机器人小车
Raspberry Pi Pico Mecanum Wheel Robot Car

此款小车套件在做到简易和小巧的同时，还保留了整体的可玩性。
以树莓派 Pico为主控，可用蓝牙控制，实现避障和寻迹等功能。
This small car kit maintains overall playability while being simple and compact. With the Raspberry Pi Pico as the main controller, it can be controlled via Bluetooth and achieve functions such as obstacle avoidance and line tracking.



ESP32-Cam 麦轮机器人小车
ESP32-Cam Mecanum Wheel Robot Car

此款小车套件是一款综合性很高的机器人小车，学习的范围广。
以ESP32和UNO R3为主控，实现了遥控、摄像、避障、寻迹等功能。
This small car kit is a highly comprehensive robot car with a wide range of learning aspects.With ESP32 and UNOR3 as the main controllers, it realizes functions such as remote control, camera, obstacle avoidance, and line tracking.

针对不同年龄段的产品体系
Product systems for different age groups

思考与探索：15岁+
Thinking and Exploring: 15+

这个年龄段的学生的认知能力趋于成熟，能够处理复杂的抽象概念、系统性思维和批判性思考。他们的自我管理能力增强，能更好地安排时间、独立完成任务，并且具备长时间集中注意力的能力。

The cognitive abilities of students in this age group tend to mature, enabling them to handle complex abstract concepts, systematic thinking, and critical thinking. Their self-management skills have improved; they can better arrange their time, complete tasks independently, and have the ability to concentrate for long periods.

R4 Minima & ESP32-S3 学习套件
R4 Minima & ESP32-S3 Learning Kit

此款学习套件采用多合一的方式，将多个模块整合在一起，使实验更加方便。采用了两种主控，由浅入深的学习，涵盖了灯光、温湿度、超声波测距等功能。

This learning kit adopts an all-in-one approach, integrating multiple modules to make experiments more convenient. It uses two main controllers, allowing for learning from easy to difficult, covering functions such as lighting, temperature and humidity measurement, and ultrasonic distance measurement.

机械臂机器人小车
Robotic arm robot car

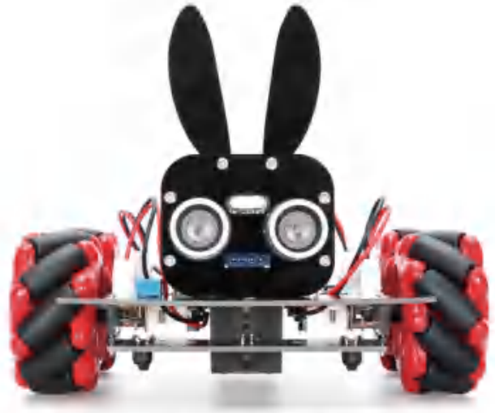
此款小车套件是一款以机械臂为主而设计的进阶机器人小车。小车通过蓝牙连接，除了能够学习到机械臂原理，还包含了小车的其它基本功能。

This small car kit is an advanced robot car designed mainly with a robotic arm, you know.The car connects via Bluetooth. In addition to learning the principles of the robotic arm, it also includes other basic functions of the car.

ESP32-Cam 太阳能机器人小车
ESP32-Cam Solar-Powered Robot Car

此款小车套件除了综合性很高外，还加入太阳能充电的功能。以ESP32和UNO R3为主控，实现遥控、摄像、太阳能充电、寻迹等功能。

In addition to its high comprehensiveness, this car kit also incorporates a solar charging function.With ESP32 and UNOR3 as the main controllers, it realizes functions such as remote control, camera, solar charging, and tracking.



树莓派 Pico
麦轮机器人小车
Raspberry Pi Pico
Mecanum wheel robot car

代码编程 Code programming
搭建：简单 Setup: Simple
配套的课程 Supporting courses
蓝牙控制 Bluetooth control

此款小车使用PCB集成端口的一体化设计。小巧可爱的兔型外观，以流行的树莓派Pico为主控，使用蓝牙控制，实现循迹、跟随和避障功能。不仅能直接为电池充电，同时RGB LED灯为小车增添了炫酷的视觉效果。

This small car adopts an integrated design with PCB integrated ports. It has a cute rabbit-shaped appearance, uses the popular Raspberry Pi Pico as the main controller, and is controlled via Bluetooth to realize tracking, following, and obstacle avoidance functions. It can not only directly charge the battery, but also the RGB LED lights add a cool visual effect to the car.

手机蓝牙控制
Mobile phone Bluetooth control

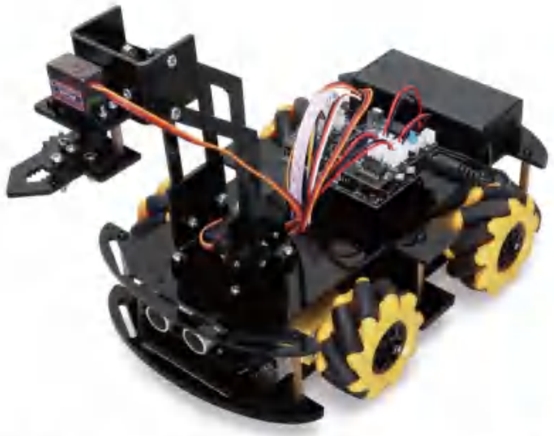
三路循迹
Three-way tracking

避障/跟随
Obstacle avoidance/following

充电状态
Charging status

LED灯光
LED lights

零件清单
Parts list



机械臂麦轮机器人小车

Mechanical arm Mecanum wheel robot car

代码编程 Code programming

搭建：复杂 Construction: Complex

配套的课程 Supporting courses

蓝牙/红外控制 Bluetooth/Infrared Control

该机械臂小车是一款功能丰富的教育工具，支持蓝牙和红外遥控，能够实现线路循迹、障碍物避让和跟随功能。它配备的机械臂可以进行精准抓取，适合用来帮助学生深入了解编程和机械臂技术的基础知识。

This robotic arm car is a versatile educational tool that supports Bluetooth and infrared remote control, capable of line tracking, obstacle avoidance, and following functions. The robotic arm it is equipped with can perform precise grasping, making it suitable for helping students gain a deep understanding of the basics of programming and robotic arm technology.

红外遥控
Infrared remote control

蓝牙遥控
Bluetooth remote control

线路循迹
Line tracking

避障/跟随
Obstacle avoidance/Following

机械臂抓取
Robotic arm grasping

零件清单
Parts list

ESP32-Cam 太阳能 机器人小车

ESP32-Cam Solar-powered robot car

代码编程 Code programming

搭建：复杂 Construction: Complex

配套的课程 Supporting courses

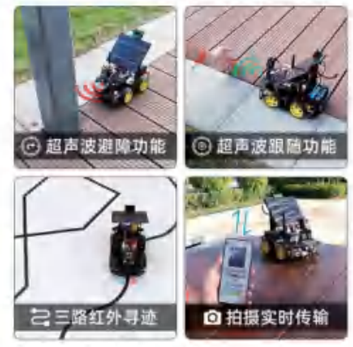
WiFi控制 WiFi Control

这款ESP32-Cam太阳能机器人小车结合了先进的技术与环保理念，支持WiFi遥控，具备线路循迹、避障和跟随功能。它配有摄像头，能够实时传输画面，同时太阳能板可根据光照自动调节角度进行充电。

This ESP32-Cam solar-powered robot car combines advanced technology with environmental protection concepts. It supports WiFi remote control and features line tracking, obstacle avoidance, and following functions. Equipped with a camera, it can transmit images in real-time. Meanwhile, the solar panel can automatically adjust its angle according to the light intensity for charging.

WIFI控制
WIFI control

WIFI覆盖范围
WIFI coverage area



产品功能
Product functions

太阳能充电
Solar charging

编译环境
compilation environment

零件清单
Parts List

双轴相机
阿克曼机器人
Dual-Axis Camera
Ackerman Robot

代码编程 Code programming

搭建：复杂 Construction: Complex

配套的课程 Supporting courses

APP控制 APP control

该机器人支持蓝牙远程控制、阿克曼前轮转向、循迹等功能。它配备了双轴摄像头，以提升用户的学习体验。

The robot supports Bluetooth remote control, Ackerman front wheel steering, tracking and other functions. It is equipped with a dual-axis camera to enhance the user's learning experience.

APP遥控
APP control

WiFi天线
WiFi antenna

功能展示
Function display

编译环境
Compilation environment

双轴摄像头
Dual-axis camera

零件清单
Function display

AI视觉机器人小车
AI vision robot car

代码编程 Code programming

搭建：复杂 Construction: Complex

配套的课程 Supporting courses

APP控制 APP Control

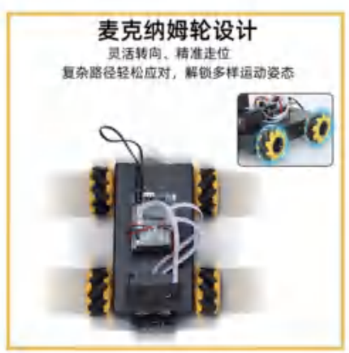
这是一款ESP32S3视觉AI小车，联动UNO板控制，支持APP操控、重力感应驾驶、超声波自动避障，前置机械臂夹取运输，底部三路循迹，麦克纳姆轮全向移动，灵活智能。

This is an ESP32S3 visual AI car, which is controlled in conjunction with a UNO board. It supports APP control, gravity sensing driving, and ultrasonic automatic obstacle avoidance. It is equipped with a front mechanical arm for gripping and transporting, three-way tracking at the bottom, and Mecanum wheels for omnidirectional movement, making it flexible and intelligent.

智能夹取
Intelligent gripping

三路循迹
Three-way tracking

功能展示
Function display



精准走位
Precise positioning

超声波测距/避障
Ultrasonic ranging/obstacle avoidance

AI 视觉
AI Vision

多功能智能家庭学习套件

该套件可搭配不同配件，打造出不同的功能场景，例如灌溉、消防、防盗、门禁、智能晾衣、智能宠物喂食系统等。

The kit can be matched with different accessories to create different functional scenarios, such as irrigation, fire protection, anti-theft, access control, smart clothes drying, smart pet feeding system, etc.

图形化编程 Block-based

配套的课程 Tutorial Support

搭建：简单 Easy

自动化 Automation

灌溉系统

Irrigation System

消防系统

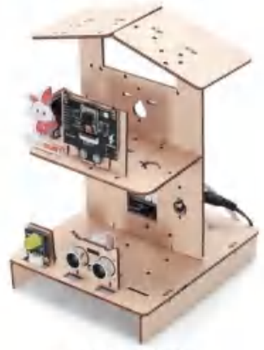
Fire protection System

衣物烘干系统

Clothes drying System

门禁系统

Access control System



防盗系统

Anti-theft System

宠物喂食系统

Pet feeding System

DIY语音智慧农场学习套件

本产品集成灯光控制、风扇驱动、自动投喂等多模块功能，支持语音与网页双通道操控，大幅提升智能交互体验。可根据学习目标或场景需求自定义修改，充分释放个性化学习与创意实践的空间。

Packed with modules for light control, fan operation, auto-feeding, display management and auto-water pumping, this product works with both voice commands and web control to deliver a smarter interactive experience.

图形化编程 Block-based

配套的课程 Tutorial Support

搭建：复杂 Challenging

按键控制 Button Control

WiFi 远程控制

WiFi Remote control

功能展示

Function Demonstration

场景展示

Scenario display

产品展示

Product Display

产品清单

Product list

TSCINBUNY 精选单品

多功能 木制小屋
智能学习套件

Multifunctional wooden cabin
Smart learning kit

该学习套件是以Nano为主控的多功能木制小屋，可通过APP和红外遥控。它配备六大控制系统：环境温湿度感应、门禁系统、安全厨卫报警系统、照明控制系统、智能窗户控制、实体触控。

This learning kit is a multi-functional wooden cabin with Nano as the main controller, which can be controlled via an APP and infrared remote control. It is equipped with six major control systems: environmental temperature and humidity sensing, access control system, safety kitchen and bathroom alarm system, lighting control system, intelligent window control, and physical touch control.

图形化编程 Block-based

配套的课程 Tutorial Support

搭建：复杂 Complex

红外遥控 Infrared remote control

功能演示1
Function Demo 1

功能演示2
Function Demo 2

功能演示3
Function Demo 3

红外遥控
Infrared remote control

APP遥控
APP control

零件清单
Parts List

图形化编程 Block-based

配套的课程 Tutorial Support

搭建：复杂 Complex

按键控制 Key control

使用场景
Usage scenarios

LCD灯牌模拟
LCD light panel simulation

零件清单
Parts list

灯光控制
Light control

光敏电阻
Photoresistor

RGB灯光
RGB lights

16合一智能小车套件

Ultimate RoboBuilder Creation Kit

本系列包含 10 款不同组件套件，可自由组合搭建出 16 款可编程智能小车。用户可根据自身需求自定义机器人，未来如需升级或更换机器人功能，只需选购对应套件即可，无需重复购买基础套件。

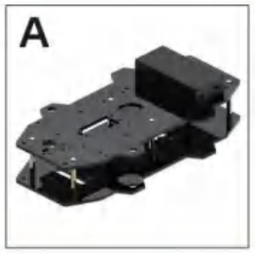
This series consists of 10 different toolkits, which can be freely combined to create 16 different programmable robot cars. Users can customize their robots according to their needs, and if they want to upgrade or change the functionality of their robots in the future, they only need to purchase the corresponding toolkits, without the need to repurchase the basic toolkits.

模块化设计 Block-based

挑战性 Challenging

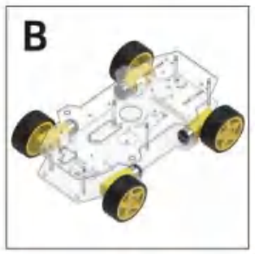
课程支持 Tutorial Support

WiFi 控制 WiFi Control



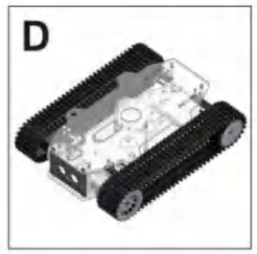
基础框架 Basic Framework

主板控制 Main Control Board

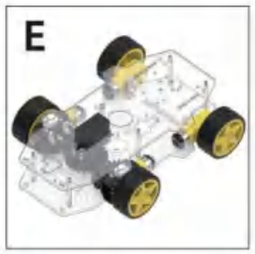


橡胶轮 Rubber Wheel

麦克纳姆轮 Mecanum Wheel



履带轮 Crawler Track



阿克曼转向 Ackerman Steering

基础功能 Basic Function

太阳板功能 Solar Function

摄像头功能 Camera Function

机械臂 Robotic Arm

TSCINBUNY 精选单品

A B ① ②

ZYC0212

A C ① ②

ZYC0206

A D ① ②

ZYC0201

A E ① ②

ZYC0213

A B ① ② ③

ZYC0209

A C ① ② ③

ZYC0205

A D ① ② ③

ZYC0203

A E ① ② ③

ZYC0214

A B ① ② ④

ZYC0211

A C ① ② ④

ZYC0207

A D ① ② ④

ZYC0202

A E ① ② ④

ZYC0215

A B ① ② ⑤

ZYC0210

A C ① ② ⑤

ZYC0208

A D ① ② ⑤

ZYC0204

A E ① ② ⑤

ZYC0216

Ai 智能探索家 Intelligent Explorer

本智能学习套件专为学生打造，搭载 ESP32 主控板，搭配电子元件与积木，通过图形化编程，轻松搭建创意项目，激发创新思维与动手能力。

This intelligent learning kit is specially designed for students. Powered by an ESP32 main control board, it combines electronic components and building blocks to inspire children's creativity.

With graphical programming software, students can easily build various projects and bring their ideas to life.

图形化编程 Graphical programming

配套的课程 Supporting courses

搭建：适中 Construction difficulty: moderate

可玩性强 High playability

ESP32主控板

ESP32 main control board

模型搭建

Model construction

能力提升

Ability improvement

系统教学

Systematic teaching

力学原理

Principles of Mechanics

携手伊贝幼儿园 共同打造Ai智能课堂

Working together with Yibei Kindergarten to build an AI-powered smart classroom.

我们致力于打造一个智能化课堂。在这个互动性强、资源丰富的环境中，孩子们不仅能深入探索知识，还能培养动手能力和创新思维。我们的目标是为每个孩子提供一个充满乐趣和挑战的学习空间，使他们在未来的学习旅程中具备竞争力。

We are committed to creating an intelligent classroom. In this highly interactive and resource-rich environment, children can not only explore knowledge in depth but also develop hands-on skills and innovative thinking. Our goal is to provide each child with a learning space full of fun and challenges, enabling them to be competitive in their future learning journey.

课堂理念

Classroom philosophy

Ai实验馆

AI Experiment Hall

专业指导

Professional guidance

师生互动

Teacher-student interaction

智能手势小车

手势控制
Gesture control

搭建：中等
Construction: Medium

配套的教程
Matching tutorials

图形化编程
Graphical programming

Smart Gesture-Controlled Car

这款智能手势控制小车，主要面向青少年编程教育，操作简单、零基础也能快速上手,通过无线模块实现连接，用户只需倾斜、摆动遥控器，就能实时控制小车前进、后退、转向，互动感和科技感拉满。它支持免焊模块化组装，还能兼容图形化和Arduino编程，能让青少年一站式完成动手实践和AI交互学习。

This intelligent gesture-controlled car is mainly designed for programming education for teenagers. It is easy to operate and can be quickly mastered even by absolute beginners. Connected via a wireless module, users only need to tilt and swing the remote control to control the car's forward movement, backward movement and steering in real time, delivering a strong sense of interaction and technology. It supports solder-free modular assembly and is compatible with both graphical programming and Arduino programming, enabling teenagers to complete hands-on practice and AI interactive learning in one stop.

ZYC0001

硬件特色结构

Hardware feature structure

细节展示

Detailed display

体感手势控制

Somatosensory gesture control

两种控制方式

Two control methods

零件清单

Parts List

Microbit麦轮小车

手柄/APP控制
Control via controller/APP

搭建：中等
Construction: Medium

配套的教程
Matching tutorials

图形化编程
Graphical programming

Microbit Mecanum Wheel Car

本产品是一款基于 BBC micro:bit 主控的四轮麦克纳姆智能小车，采用集成式 PCB 车身结构设计，支持图形化编程。小车集成了 无线遥控、超声波测距、红外巡线、RGB 灯效、全向移动控制 等多种功能，适用于创客教育、STEAM 课程、编程入门与机器人实践教学。

This product is a four-wheel Mecanum smart car based on the BBC micro:bit main control unit. It adopts an integrated PCB body structure design and supports graphical programming. The car integrates multiple functions such as wireless remote control, ultrasonic ranging, infrared line tracking, RGB lighting effects, and omnidirectional movement control, making it suitable for maker education, STEAM courses, introductory programming, and robotic practical teaching.

ZYC0097/0227

手柄遥控

Handle remote control

手机APP遥控

Remote control via mobile APP

循迹功能

Line following function

手柄说明

Controller instructions

LED灯光

LED lighting

四轴机械臂

手势/APP控制
Gesture/APP control

搭建：复杂
Setup: Complex

配套的教程
Matching tutorials

代码编程
Code programming

Four-axis Gesture Robotic Arm

这是一款基于 STM32 主控及 Keil 平台开发的四轴机械臂套装，支持陀螺仪手势和蓝牙APP 两种遥控方式。搭载了高性能的 MG996R 舵机和 OLED 显示屏，是一款集学习、开发与实操于一体的智能机械臂套件。

This is a four-axis mechanical arm set developed based on the STM32 main control and Keil platform, supporting two remote control methods: gyroscope gestures and Bluetooth APP. Equipped with a high-performance MG996R servo and an OLED display, it is an intelligent mechanical arm kit that integrates learning, development and practical operation.

ZYC0221

硬件特色结构

Hardware feature structure

智能搬运夹取

Intelligent handling and clamping

体感手势控制

Somatosensory gesture control

两种控制方式

Two control methods

编译环境

Operating environment

AI视觉平衡车

APP控制
APP control

搭建：复杂
Setup: Complex

配套的教程
Matching tutorials

代码编程
Code programming

AI Visual Self-balancing Car

平衡车以 STM32F103RCT6 为核心，配金属底盘、大功率电机与六轴 IMU，可通过超声波避障 / 跟随，OLED 显数据、手机 APP 控制，K210 实现多视觉交互；它是款兼顾硬实力与多功能的智能平衡车学习套件。

The balance car is centered on STM32F103RCT6, equipped with a metal chassis, high-power motors and a six-axis IMU. It can avoid obstacles/follow via ultrasonic waves, display data on an OLED screen, be controlled by a mobile phone APP, and realize multi-visual interaction through K210. It is an intelligent balance car learning kit that combines strong hardware capabilities and multiple functions.

ZYC0220

多功能玩法

Multifunctional gameplay

keil uvision 开发平台

Keil uVision development platform

功能介绍

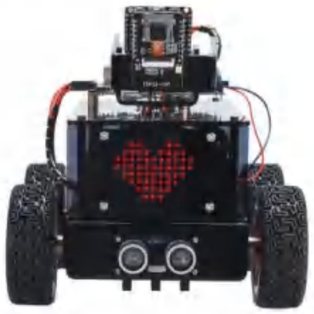
Function Introduction

教程资料

Tutorial materials

手机APP控制

Control via mobile app



STM32 ROS 机器人小车

手机APP控制
Controlled via mobile APP

搭建：复杂
Setup: Complex

配套的教程
Matching tutorials

代码编程
Code programming

STM32 ROS Robot car

这是一款以高性能STM32F407VET6为主控、板载OMB658 IMU姿态传感器，集成丰富接口与多重保护的ROS机器人开发小车。配套Python 3 ROS1/ROS2 SDK及完整项目代码，可实现循迹、避障、ESP32CAM远程操控功能，矩阵屏同步动作表情，操作简单高效，适配多控制器切换。

This is a ROS robot development car featuring a high-performance STM32F407VET6 as the main controller, an onboard OMB658 IMU attitude sensor, integrated rich interfaces and multiple protections. It comes with Python3 ROS1/ROS2 SDK and complete project code, enabling functions such as tracking, obstacle avoidance, and ESP32CAM remote control. The matrix screen synchronizes action expressions, making operation simple and efficient, and it is compatible with switching between multiple controllers.

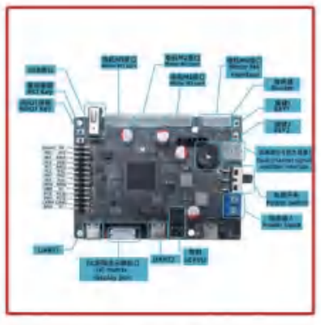
ZYC0222

功能展示
Function Demonstration

结构展示
Structure display

矩阵显示屏
Matrix display screen

三路传感器
Three-way sensor



主控板
Main control board

STM32 编程无人机

手柄遥控
Handle remote control

搭建：中等
Construction: Medium

配套的教程
Matching tutorials

代码编程
Code programming

STM32 Programming Drone

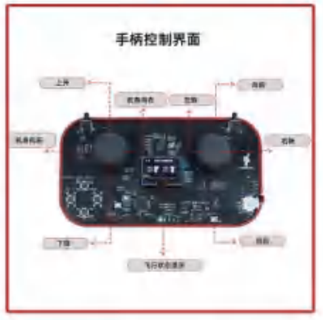
这款可编程无人机集飞行体验、编程教育与电子创新于一体，专为科技爱好者、编程初学者以及 STEM 教育设计。通过开放的硬件接口与丰富的软件编程支持，让用户不仅能学会驾驶无人机，更能深入理解无人机的工作原理与智能控制。

This programmable drone integrates flight experience, programming education, and electronic innovation. It is specially designed for tech enthusiasts, programming beginners, and STEM education. With open hardware interfaces and abundant software programming support, users can not only learn to fly the drone but also gain an in-depth understanding of the drone's working principles and intelligent control.

ZYC0223

飞行姿态
Hardware feature structure

手柄控制
Intelligent handling and clamping



手柄控制界面
Somatosensory gesture control

编译环境
Two control methods

结构展示
Operating environment

智能人形机器人

手机APP控制
Controlled via mobile APP

搭建：复杂
Setup: Complex

配套的教程
Matching tutorials

代码编程
Code programming

Intelligent Humanoid Robot

人型机器人以 STM32 单片机为主控,搭载高精度总线舵机,拥有 6 个自由度,可以完成中国工程机器人大赛中竞步项目的行走,拐弯,前翻,后翻等规定工作。机器人提供全套动作组文件以及学习资料,支持自定义编辑动作组进行二次开发,可以让您在准备比赛中节省大量时间。

The humanoid robot takes the STM32 microcontroller as its main control unit, equipped with high-precision bus servos and featuring 6 degrees of freedom. It can complete specified tasks such as walking, turning, front flips, and back flips in the race walking event of the China Engineering Robot Competition. The robot is provided with a complete set of Z action group files and learning materials, supporting custom editing of action groups for secondary development, which can save you a great deal of time when preparing for competitions.

ZYC0224

功能展示
Function Demonstration

结构展示
Structure display

APP 控制
APP control

编程控制界面
Programming control interface

编译环境
Operating environment

六足具身机器人

手机APP控制
Controlled via mobile APP

搭建：复杂
Setup: Complex

配套的教程
Matching tutorials

代码编程
Code programming

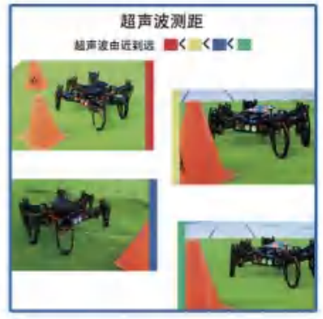
Hexapod Embodied Robot

本品为双版本智能六足机器人，搭载 ESP32+PCA9685 驱动系统，配亚克力轻量化快装支架，含发光超声波传感器，支持避障 / 跟随双模式、精准探测反馈及 Arduino 编程与 APP 控制；还可拓展语音模块，自定义指令。依托专属教程资源，适配多场景，兼顾入门易用性与进阶拓展性，是趣味与实用兼具的智能编程机器人。

This product is a dual-version intelligent hexapod robot, equipped with an ESP32 + PCA9685 drive system, an acrylic lightweight quick-install bracket, and a luminous ultrasonic sensor. It supports two modes: obstacle avoidance and following, with precise detection feedback, as well as Arduino programming and APP control. It can also be expanded with a voice module for custom commands. Relying on exclusive tutorial resources, it is suitable for multiple scenarios, balancing ease of use for beginners and expandability for advanced users, making it an intelligent programming robot that combines fun and practicality.

ZYC0225/244

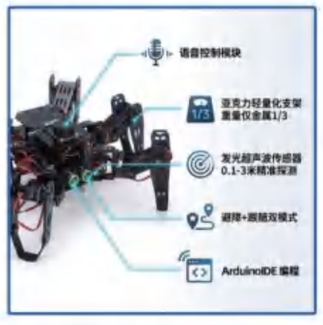
超声波跟随
Ultrasonic following



超声波测距
Intelligent handling and clamping

语音控制指令
Voice control commands

编译环境
Two control methods



结构展示
Operating environment

AI Intelligent Bionic Robot Fish

机器鱼以NANO单片机为主控板，搭载3个PWM舵机，可以通过手势别模块实现摇头、摆尾和摆动加减速度等功能，同时OLED显示屏模块也会随着尾巴摆动对应显示眨眼、微笑等表情。结合AI大模型后，可以通过语音对话问答实时交互。

The robotic fish uses a NANO microcontroller as its main control board and is equipped with three PWM servos. It can realize functions such as head shaking, tail wagging, and swinging acceleration and deceleration through a gesture recognition module. Meanwhile, the OLED display module will correspondingly show expressions like blinking and smiling as the tail swings. After integrating an AI large model, it can conduct real-time interactive voice conversations and Q&A.

ZYC0245

配套的教程 Supporting tutorial

手势控制 Gesture control

语音交互 Voice interaction

搭建难度：中等 Difficulty level: moderate

表情显示 Emoji display

AI智能对话 AI Intelligent Conversation

手势控制游动

Gesture control swimming

内置手势模块可通过手势控制，驱动舵机实现鲨鱼尾部左右律动的仿生效果。

The built-in gesture module enables gesture control to drive the servo and achieve the bionic effect of the shark tail swinging left and right rhythmically.

TSCINBUNY 精选单品

鲨鱼早在恐龙出现的 3 亿年前就已经存在于地球上了，至今已经超过 5 亿年，而且鲨鱼是没有鱼鳔的，必须不停游动才能保持在水中不沉下去哦。

Sharks existed on Earth as early as 300 million years before dinosaurs appeared, and have been around for more than 500 million years. Moreover, sharks do not have swim bladders and must keep swimming constantly to avoid sinking in the water.

给我讲一个鲨鱼的冷知识吧！
Tell me a fun fact about sharks!

AI 语音交互 · 智能对话

AI Voice Interaction · Intelligent Dialogue

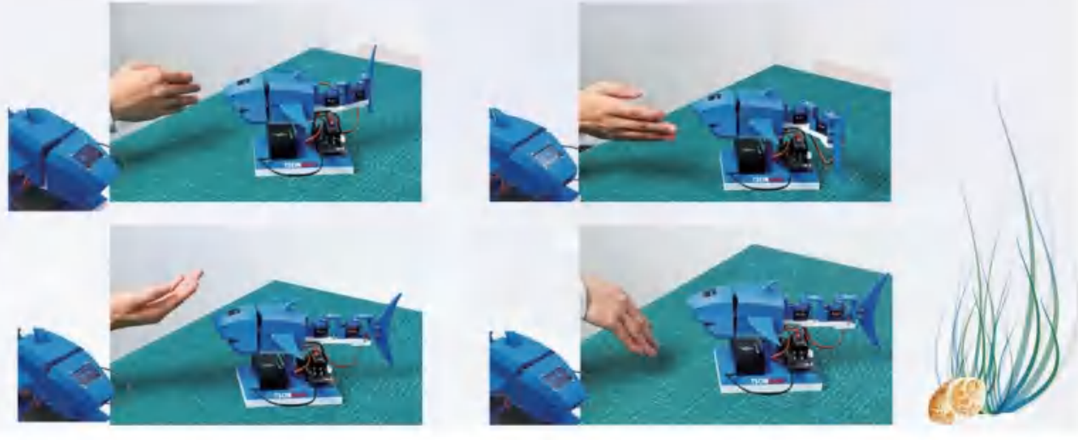
- 自然对话：支持中英文多语言提问，交流更自由
- 知识问答：覆盖百科、学习、生活等海量知识查询
- 流畅交互：精准理解对话，快速响应你的需求
- Natural Conversation: Supports Chinese & English queries for free communication
- Knowledge Q&A: Covers encyclopedia, study, daily life and more
- Smooth interaction: accurately understand conversations and respond to your needs quickly

OLED 表情显示模块

OLED expression display module

板载 OLED 显示屏模块，可实时输出表情动画（眨眼等）与状态信息，直观展示机器鱼当前工作状态，提升交互趣味性。

The on-board OLED display module can output emoji animations (such as blinking) and status information in real time, intuitively displaying the current working status of the robotic fish and enhancing interactive fun.



AI智能仿生机械狗
AI Intelligent Bionic Robot Dog

AI Intelligent Bionic Robot Dog

本品为高性价比仿生四足机器狗，采用高自由度结构设计，搭配2.3kg.cm大扭矩舵机，机身集成高清摄像头，支持Web+APP双重便捷操控；同步推出三款差异化型号，第一款仅有基础功能，主打简单上手;第二款搭载AI大模型，主打智能适配；第三款无AI大模型，搭载语音控制模块，便捷易操作，适配不同需求。精准适配入门科普、智能进阶、便捷娱乐等不同使用场景与需求。

This product is a cost-effective bionic quadruped robot dog, featuring a high-degree-of-freedom structural design and equipped with 2.3kg.cm high-torque steering gears. The body integrates a high-definition camera and supports dual convenient control via Web and APP. Three differentiated models are launched simultaneously: the first one only has basic functions, focusing on easy operation; the second one is equipped with a large AI model, emphasizing intelligent adaptation; the third one, without a large AI model, is fitted with a voice control module for convenient and simple operation, catering to diverse needs. It is precisely adapted to various usage scenarios and requirements such as introductory popular science, intelligent advancement, and convenient entertainment.

ZYC0226/247/248

配套的教程 Supporting tutorial

语音控制 Voice control

语音交互 Voice interaction

搭建难度：中等 Difficulty level: moderate

双版本 Two versions

AI大模型本地部署 Local deployment of AI large models

内置语音控制控制模块

Built-in voice control module

支持语音指令操控，让机械狗精准响应、完成前进，握手等仿生动作，交互更智能。

It supports voice command control, enabling the robotic dog to respond accurately and perform bionic actions such as moving forward and shaking hands, making interaction more intelligent.

AI 语音交互 · 智能对话

AI Voice Interaction · Intelligent Dialogue

内置 AI 大模型，支持自然语音交互：语音指令控制运动、趣味问答互动、编程指令语音输入，让孩子在对话中探索 AI，在交流中学习编程，打造沉浸式 AI 教育新体验。

Built-in AI large model, supports natural voice interaction: voice command to control movement, fun Q&A interaction, voice input of programming instructions, allowing children to explore AI in dialogue, learn programming in communication, and create an immersive new AI education experience.

动作指令 灵动自如

All-rounded and agile in every move

从稳健站立到灵活转弯，从轻盈跳跃到平稳趴下,全姿态精准控制，解锁机器人的无限可能

From steady standing to flexible turning, from light leaping to smooth lying down, precise control of all postures unlocks the infinite possibilities of robots.

姿态自平衡系统

Posture self-balancing system

搭载高精度 9 轴运动跟踪器 ICM20948，智能调控姿态平衡，让摄像头始终保持水平视角，画面稳定不晃动。

Equipped with the high-precision 9-axis motion tracker ICM20948, it intelligently regulates attitude and balance, keeping the camera at a horizontal viewing angle at all times for stable and shake-free footage.

实验学习套件系列
Experimental Learning Kit Series

实验学习套件系列专为实践探索设计，涵盖自动浇水、太阳能追踪、超声波探测等实验，支持 UNO、ESP32、Pico 等多主板操作，助力学习者理解技术原理、培养创新思维与实践能力，夯实科创学习基础。

This experimental kit series covers auto-watering, solar tracking and ultrasonic detection experiments, and supports UNO, ESP32, Pico and integrated boards. It helps learners master technical principles, build practical skills and solidify their academic foundation.

灌溉系统 学习套件
Irrigation System Learning Kit

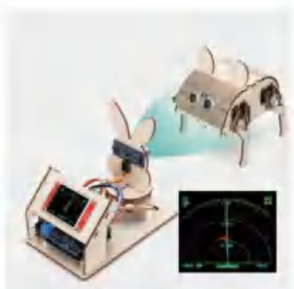
基于UNO主控，通过土壤水分检测器实时监测土壤水分含量，自动化控制继电器以驱动水泵进行补水。
Based on UNO master control, water replenishment is automatically performed by monitoring soil moisture.

太阳能追踪 学习套件
Solar Tracking Learning Kit

基于UNO主控，通过光敏模块感应光的强弱进行追踪，并由太阳能面板驱动数码管显示转化的电压。
Based on UNO main control, the light intensity is sensed by thephotosensitive module for tracking.

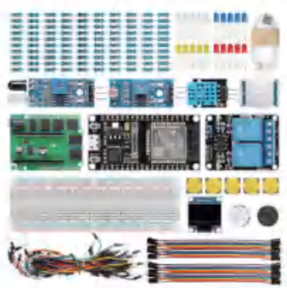
雷达扫描 学习套件
Radar Scanning Learning Kit

基于UNO主控，通过超声波传感器云台模拟雷达扫描，把测距模拟捕捉到的物体成像到TFT显示屏。
Based on UNO master control, the ultrasonic sensor gimbal simulates radar scanningand images it on the TFT display.



UNO R3 基础 学习套件
UNO R3 Basic Learning Kit

基于UNO主控，实现按键控制LED、RGB多彩灯光、蜂鸣器实验、热敏光敏实验、温湿度、麦克风实验等功能
Based on UNO main control, various basic experimental projects can be realized in conjunction with modules.



ESP32 WiFi 学习套件
ESP32 WiFi Learning Kit

基于ESP32主控，除了能够实现基本的模块功能，还可以通过WiFi与终端平台进行信号的接收和发送。
Based on the ESP32 master control, in addition to realizing basic module functions, it can also realize WiFi functions.

AI 智能语音学习套件
Ai Voice Learning Kit

Ai 智能语音聊天学习套件通过 ESP32 主板连接到 Ai 大模型。
The Ai Smart Voice Chat Learning Kit connects to Ai large modelsvia the ESP32 main board.

多合一 物联网 学习套件
All-in-one IoT Learning Kit

以集成的方式，将多个模块整合在一起。可用ESP8266或Nano作为主控，借助Blinker物联网平台，实现云端控制多种功能。
Integrate multiple modules in an integrated way. Use ESP8266 or Nano as the main control to achieve multiple functions.

脑机接口头环
BRAIN-COMPUTER INTERFACE HEADBAND

专注值 Focus value

放松度 Relaxation level

数据洞察 Data Insights

蓝牙连接 Bluetooth connection

脑机头环基于脑电波采集模块开发，可实时采集大脑专注值、放松度脑电信号，适配中小学专注力训练、高校脑机接口 BCI 科创课程、创客 DIY 项目。
基础款仅依靠脑电阈值控制机器人小车直行，Pro 款搭载内置陀螺仪，实现头部姿态四向操控，配套多款脑机交互训练游戏，覆盖脑电信号读取、阈值逻辑控制、姿态传感联动、APP 游戏化训练全维度实操教学，打通脑科学理论与硬件实物落地。

Developed with EEG acquisition module, the brainwave headband collects real-time concentration and relaxation brainwaves for K12 focus training, university BCI courses and maker DIY projects.
Basic model drives robot cars forward via EEG thresholds only. Pro version adds built-in gyroscope for 4-way head gesture control, paired with multiple BCI training games. It provides full practical tutorials on EEG reading, threshold control, sensor linkage and APP gamified learning, connecting brain science theory to tangible hardware practice.

功能特色
Functional Features

01 脑电实时数据监测
Basic EEG Real-time Monitoring

高精度脑电传感器采样，APP 动态曲线实时展示专注值、放松度波动，量化大脑精神状态，可记录训练数据，直观判断注意力集中程度，用于日常专注力自测与课堂量化教学。

High-precision EEG sensor sampling, APP dynamically displays focus & relaxation curve in real time. Quantify mental state and record training data, convenient for daily self-test and quantitative classroom teaching.

02 可联动多款产品
Compatible with multiple products

后期开发结合智能机器人，零基础也能玩明白的生物反馈实验工具。
基础款：纯脑电波信号触发，达标自动驱动智能机器人直线前进；
Pro 升级版：脑电信号 + 陀螺仪头部姿态双重控制，低头前进、仰头后退、左右转头实现转向，可调节动作灵敏度，脱机稳定执行连续行走指令。

This biofeedback experimental tool will be integrated with intelligent robots in subsequent development, operable even for users with zero foundation.
Basic Version: Activated purely by brainwave signals; the intelligent robot automatically travels straight forward when the signal standard is met.
Pro Upgraded Version: Dual control combining brainwave signals and gyroscope head posture. Move forward by lowering the head, move backward by tilting the head up, and steer by turning left or right. Adjustable motion sensitivity, supports stable offline execution of continuous walking instructions.

03 APP 游戏化专注力训练
Mobile APP Gamified Training

Pro 版专属 APP 内置多款脑电波互动小游戏，以专注力数值和陀螺仪作为游戏闯关判定依据，趣味化完成注意力训练；蓝牙直连,同时支持单人对抗与多人联机。

The Pro dedicated APP includes various EEG interactive games, using focus score and gyroscope data for game clearance rules to gamify focus training. Bluetooth direct connection is available, supporting single-player competition and multi-player online play.

功能Function	基础版Basic Version	升级版Pro Version
专注度 & 放松度实时监测 Real-time Focus & Relaxation Monitoring	✅ APP 实时可视化显示 Real-time visual display on APP	✅ APP 实时可视化显示 Real-time visual display on APP
内置陀螺仪 Built-in Gyroscope	❌ 无 Not equipped	✅ 支持头部体感姿态识别 Support head motion attitude recognition
脑机联动专注力游戏 BCI Interactive Focus Games	❌ 不支持 Not supported	✅ APP 内置多款训练小游戏 Multiple training mini games built-in APP
蓝牙 APP 无线操控 Wireless Bluetooth APP Control	✅ 支持 Supported	✅ 支持 Supported
适用场景 Application Scenarios	脑科学入门体验、简易科创实验、低年级科创启蒙教学 Introductory brain science experience, basic maker experiments, maker enlightenment teaching for junior grades	高阶脑机接口研学、儿童专注力干预、高校 BCI 课程、创客二次开发 Advanced BCI research, kids focus intervention, university teaching, secondary development

六自由度主从示教机械臂

6-DEGREE-OF-FREEDOM MASTER-SLAVE TEACHING MANIPULATOR

代码编程 Code programming

搭建：复杂 Construction: Complex

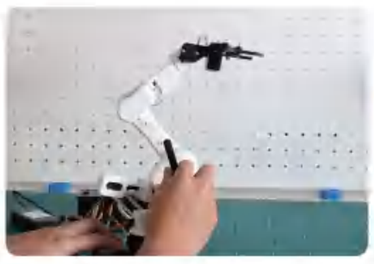
配套的课程 Supporting courses

多种控制放方式 Bluetooth/Infrared Control

6 自由度主从双臂机械臂，基于 Arduino 生态开发，配备示教从臂 + 主执行臂双结构。适配高校机器人、机电、自动化等专业教学，也可供创客 DIY。创新主从同步示教，无需复杂编程，旋钮操控、一键录放抓取分拣动作，完整覆盖舵机控制、DH 运动学、串口通信等实操教学，打通理论与实物开发。

This 6-DOF master-slave dual robotic arm adopts the Arduino system, with a master working arm and a teaching slave arm. Ideal for university robotics, mechatronics and automation teaching, as well as maker DIY projects.
Featuring innovative master-slave synchronous teaching, it avoids complex coding. Adjust potentiometers for real-time control, and record & replay grasping/sorting motions with one click.
It integrates hands-on training of mechanical structure, servo control, DH kinematics and serial communication, bridging textbook theory and physical development.

功能特色
Functional Features



01 主从实时同步控制
Master-Slave Real-Time Synchronous Control

10 位高精度 ADC 采样，平滑步进算法消除急动卡顿；实时控制步长可自定义调节，新手低速顺滑，进阶可调高速运行，完整复刻工业拖动示教逻辑。

10-bit high-precision ADC sampling; the smooth stepping algorithm eliminates jitter and stuttering. The real-time control step size can be customized and adjusted, enabling smooth low-speed operation for beginners and tunable high-speed operation for advanced users, with the industrial drag-and-teach logic fully replicated.

02 动作录制 + 离线循环回放
Action Recording + Offline Loop Playback

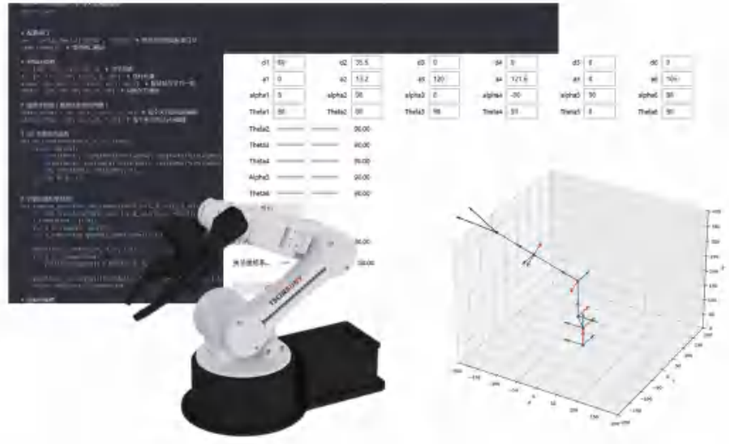
按下录制键保存抓取姿态，回放模式运行动作一键记录每一步关节角度与夹爪状态，内置同步等待机制，全部关节到位后再执行下一动作，轨迹复刻零偏差；支持修改回放间隔自由调节运行快慢，脱机自动循环演示。

Press the record button to save captured postures. In playback mode, record joint angles and gripper status for each step with one click. A built-in synchronous waiting mechanism ensures the next action only executes after all joints reach target positions for zero-deviation trajectory reproduction. Adjustable playback intervals allow free tuning of motion speed; offline automatic cycle demonstration is supported.

03 PC 上位机控制
PC upper computer control

下位机提供完整 Arduino 源码，上位机配套 Python 仿真程序；内置标准 DH 运动学模型，支持 6 轴逆运动学解算、3D 可视化仿真、JSON 动作文件存储；开放全部参数，可自定义动作速度、扩容动作存储容量、修改初始姿态，适配课程拓展、科创项目开发。

The lower computer provides complete Arduino source code, while the upper computer is equipped with a matching Python simulation program. It comes with a built-in standard DH kinematics model that supports 6-axis inverse kinematics solving, 3D visual simulation, and JSON motion file storage. All parameters are open for adjustment, allowing users to customize motion speed, actual motion storage capacity and initial posture. It is suitable for curriculum expansion and science and innovation project development.



03 手机APP 操控
Mobile APP control

搭载蓝牙无线通讯模块，手机 APP 直连设备；支持单轴独立操控、实时调节运行速度，摆脱有线束缚，移动场景调试、课堂演示更灵活便捷。

Equipped with a Bluetooth wireless communication module for direct connection to the device via mobile APP. It supports independent single-axis control and real-time speed adjustment, eliminating wired constraints to deliver greater flexibility and convenience for mobile on-site debugging and classroom demonstrations.

开源Ai机械手掌

Open-source AI robotic palm

代码编程 Code programming

搭建：复杂 Construction: Complex

配套的课程 Supporting courses

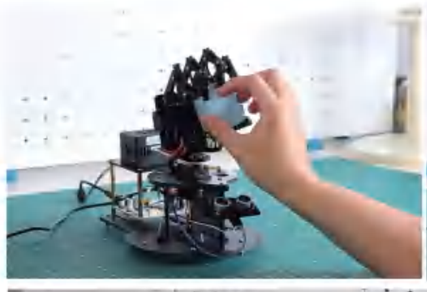
多种控制放方式 Bluetooth/Infrared Control

本款高阶五指仿生仿真机械手，搭载专用主控底板+分体仿真数据手套，搭载超声波模块、视觉模块，脑机控制盒子、手机APP、体感仿真手套四套独立控制系统；支持0-5数字手势视觉识别、APP单舵机精准调控、脑机预设动作组内置剪刀石头布程序、体感陀螺仪随动操控；

This advanced five-finger bionic simulated manipulator is equipped with a dedicated main control baseboard and split simulated data glove, as well as four independent control systems including an ultrasonic module, a vision module, a brain-computer control box, a mobile APP, and a somatosensory simulation glove. It supports visual recognition of digital gestures from 0 to 5, precise single-servo adjustment via the APP, pre-set brain-computer motion sequences, a built-in rock-paper-scissors program, and follow-up control through somatosensory gyroscopes.

功能特色

Functional Features



01 超声波感应夹放

Ultrasonic Induction Clamping and Releasing

靠近自动抓取，远离自动松开;超声波测距传感，无需按键触发，纯自主感应，沉浸式体验智能机械手。

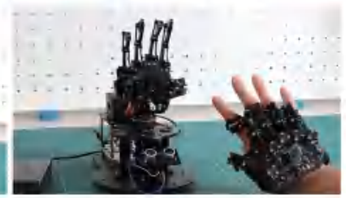
Automatically grasp when approaching, release when moving away. Equipped with ultrasonic distance sensors, no button triggering required, fully autonomous induction for an immersive smart manipulator experience.

02 APP控制

Mobile APP control

移动端可视化操控 APP，支持单指独立角度调节，蓝牙无线连接，操作简单直观。

Mobile visual control APP, supporting independent single-finger angle adjustment and wireless Bluetooth connection with simple and intuitive operation.



03 体感手套控制

Haptic Glove Control

配套仿生体感数据手套，内置陀螺仪与柔性传感单元，实时捕捉手指、手腕姿态，无线同步复刻手部动作，可实现 1:1 同步随动抓取。

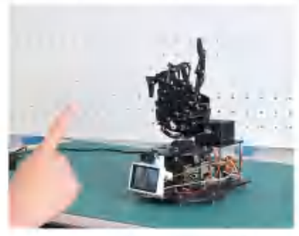
Comes with a bionic motion-sensing data glove built-in gyroscopes and flexible sensor units. It captures finger and wrist postures in real time, wirelessly synchronizes and replicates hand movements, and enables 1:1 synchronous follow-up grasping.

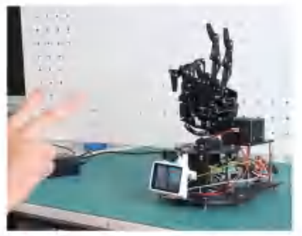
04 视觉识别控制

Visual Recognition Control

搭载 CanMV K230 高性能 AI 视觉主板，摄像头实时捕捉手部姿态，通过深度学习算法识别手势动作，无需穿戴传感器，仿生机械手即可精准复刻手指屈伸动作，一比一同步复刻 1-5 指手势，真正做到手随心动，流畅完成单指、双指、五指张开等多种动作演示。

It is equipped with the high-performance CanMV-K230 AI vision mainboard. The camera captures hand postures in real time and recognizes gesture movements via deep learning algorithms, eliminating the need for wearable sensors.
The bionic manipulator can accurately replicate finger flexion and extension motions, synchronously reproducing 1-5 finger gestures at a 1:1 ratio. Truly enabling hands to follow your mind, it smoothly demonstrates various motions including single-finger, double-finger and five-finger spreading.





05 脑机头环控制

Headset Brain Control

搭配脑机系统小森，佩戴脑机头环，读取脑电信号转化为机械手控制指令，通过专注力触发剪刀石头布的手势，用于脑机交互前沿科创课题实训。

Paired with the Xiaosen brain-computer system, users wear a brain-computer headband to read electroencephalogram signals and convert them into control commands for a robotic manipulator. Gestures of rock-paper-scissors are triggered by concentration, which is applied to practical training for cutting-edge scientific research projects on E-brain-computer interaction.

智能熊猫
双足机器人
Intelligent Panda Biped Robot

图形化编程 Graphical Programming

搭建：复杂 Construction: Complex

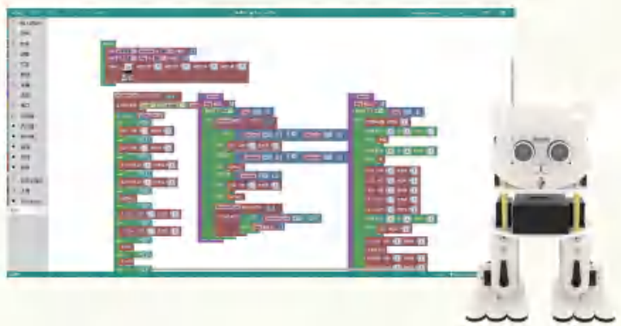
配套的课程 Supporting courses

多种控制放方式 Bluetooth/Infrared Control

熊猫双足仿生机器人搭载 4 个 MG90 高精度舵机，双腿可平稳仿生行走。模块化免焊结构，拼装简单，小朋友也能快速组装完成。内置四大趣味运行模式：自主行走、红外避障、物体跟随、自定义舞蹈编程，玩法丰富。
采用图形化积木拖拽编程，零基础即可上手，也可切换代码模式进阶学习。可选搭配脑机头环，依靠专注力、放松度脑电信号直接控制机器人，体验脑电波意念操控黑科技。

The panda biped robot uses 4 MG90 high-precision servos for stable bionic walking. Solder-free modular design enables easy assembly for kids. Four modes: auto walking, IR obstacle avoidance, object tracking and custom dance editing. It supports drag-and-drop block programming with advanced code mode optional. Compatible with BCI headband for brainwave focus/relaxation signal control.

功能特色
Functional Features



01 编程启蒙
Programming Enlightenment

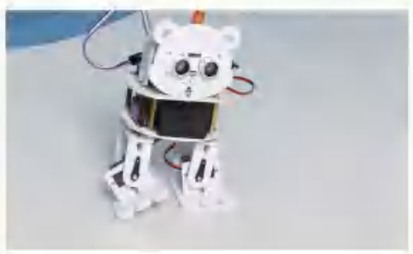
入门：积木拖拽式图形化编程，零基础快速上手，自动生成代码一键烧录，可实现避障、自编舞蹈等功能。
进阶：一键切换代码文本模式，支持查看、修改源码，循序渐进过渡到代码编程，锻炼逻辑与实操解决能力。

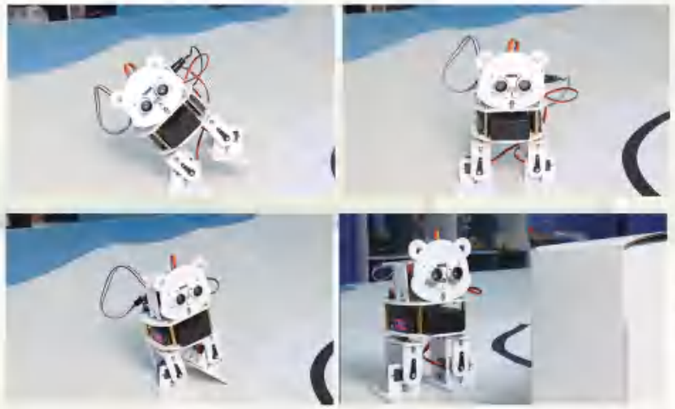
Beginner Level: Drag-and-drop block programming for beginners. Auto-generated codes can be uploaded with one click to realize obstacle avoidance, custom dances and other functions.
Advanced Level: One-click switch to text code view for viewing and editing source codes. It helps kids smoothly transition to textual programming and improve logical thinking & problem-solving skills.

02 APP控制
APP control

配套专属控制APP，无需复杂操作，手机一键连接即可操控机器人前进、后退、转向，还能自定义动作序列，实现趣味舞蹈、互动指令等多种玩法。

Dedicated control APP for easy one-click Bluetooth connection. Control the robot to go forward, back and turn, and edit custom actions for dance performance and interactive functions.





03 四大内置趣味模式
Four Built-in Fun Modes

自主行走：舵机联动，平稳走路、灵活转弯
避障行驶：感应障碍物，自动绕开前行
目标跟随：追踪物体，保持距离自动跟随
编程舞蹈：自编动作，机器人随节奏跳舞
丰富玩法由基础运动延伸至创意编程，有效激发孩子探索兴趣。

Autonomous Walking: Servos cooperate for stable walking and flexible turning.
Obstacle Avoidance: Detect barriers and detour automatically.
Object Following: Track targets and follow at a safe distance.
Programmable Dance: Edit actions freely for rhythmic dancing.
Diverse gameplay inspires children's desire for exploration.

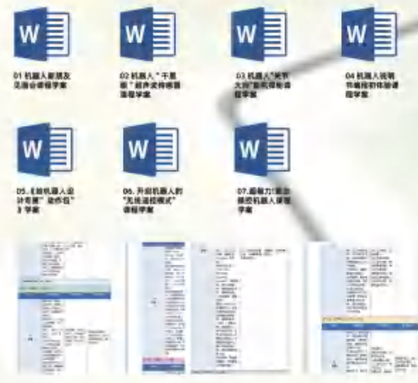
04 配套专属教案，教学零门槛落地
Supporting exclusive lesson plans for hassle-free teaching implementation

由研发团队联合一线专业教师共同打磨，为机器人课程量身打造标准化教案与学材。从课程目标、流程设计到课堂互动、拓展延伸，覆盖每一个教学环节；教案与学案双轨配套，老师拿来就能用，轻松实现课堂高效教学与学生探究式学习的闭环。有中英文两个版本，国内外均可通用。

Co-developed by the R&D team and experienced in-service teachers, customized standard teaching resources for robot courses cover full teaching procedures. Matched lesson plans and student handouts are ready-to-use to realize efficient teaching and inquiry learning. Bilingual (Chinese & English) editions support global use.

{课程教案}
{Course Lesson Plan}

{课程学案}
{Course Learning Plan}



05 脑机头环控制
Headset Brain Control

熊猫两足机器人支持脑机接口头环拓展，通过实时采集的专注度或放松度信号，即可驱动机器人行走解锁 "意念控制"的黑科技体验；同时开源的硬件与平台支持，让你可以基于 Arduino 生态开发更多创意玩法，从入门级的行走控制到高阶的动作序列编程，一台机器人就能满足从启蒙到进阶的全阶段学习需求！

The panda biped robot is compatible with BCI headband extension. Real-time focus/relaxation brain signals control its movement to realize mind control experience. With open-source hardware based on Arduino, users can develop diverse creative programs. It fulfills all learning stages from introductory training to high-level motion programming.

完整的课程体系
Complete Curriculum System

完善的课程体系旨在为师生提供一个系统且结构清晰的教学框架，包括详细的教学大纲和教案，以明确课程主题和目标知识点，例如硬件熟悉、结构搭建、编程掌握和功能实现。同时，该体系还提供全面的技术支持，确保教师在教学过程中遇到技术难题时能得到及时帮助。

The perfect curriculum system aims to provide teachers and students with a systematic and clearly structured teaching framework, including detailed syllabus and lesson plans to clarify thecourse topics and target knowledge points, such as hardware familiarization, structure construction, programming mastery and function realization. At the same time, the system also provides comprehensive technical support to ensure that teachers can get timely help when they encounter technical difficulties in the teaching process.

课程大纲
Course Outline

每门课程都将有一份清晰的教学大纲，概述课程的整体结构和学习目标。

Each course will have a clear syllabus outlining the overall structure of the course, learning objectives and schedule.

课程规划
Lesson Plan

教师们为每节课做准备时，都会制定一份教案，其中包含课程主题和目标知识点。

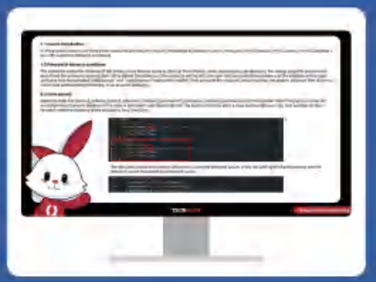
Teachers prepare for each lesson with a lesson plan that includes the lesson topic and target knowledge points.

- 课程主题：每节课的核心主题及其相应的教学内容。
  Course Theme: The core theme of each lesson and its corresponding teaching content.
- 知识点 Knowledge Points
  - 了解硬件 Understand The Hardware
  - 组装结构 Assemble The Structure
  - 掌握编程 Master The Programming
  - 实现功能 Implement The Function

课程PPT
Course PPT

本课程的PPT内容包括知识点的详细讲解、具体的操作步骤以及图文说明。

The course PPT content includes detailed explanation of knowledge points, specific operation steps and graphic illustrations.



技术支持
Technical Support

提供技术支持，以确保教师在遇到技术难题时能够得到及时帮助。

Provide technical support to ensure that teachers can get timely help when they encounter technical difficulties.

服务与定制
Service & Customization

我们专注于为学校和教育机构提供灵活的学习套件及课程，以满足不同学生和教学环境的需求。我们的学习套件可根据实际教学要求进行定制，涵盖硬件设备、软件工具和学习资料。我们的技术支持团队随时为教师提供指导，帮助他们提高教学质量。

We focus on providing schools and educational institutions with flexible learning kits and courses to meet the needs of different students and teaching environments. Our learning kits can be customized according to actual teaching requirements, covering hardware equipment, software tools and learning materials. Our technical support team is always available to provide guidance to teachers to help them improve the quality of teaching.