UBTECH EDUCATION

Yanshee

Education Solution

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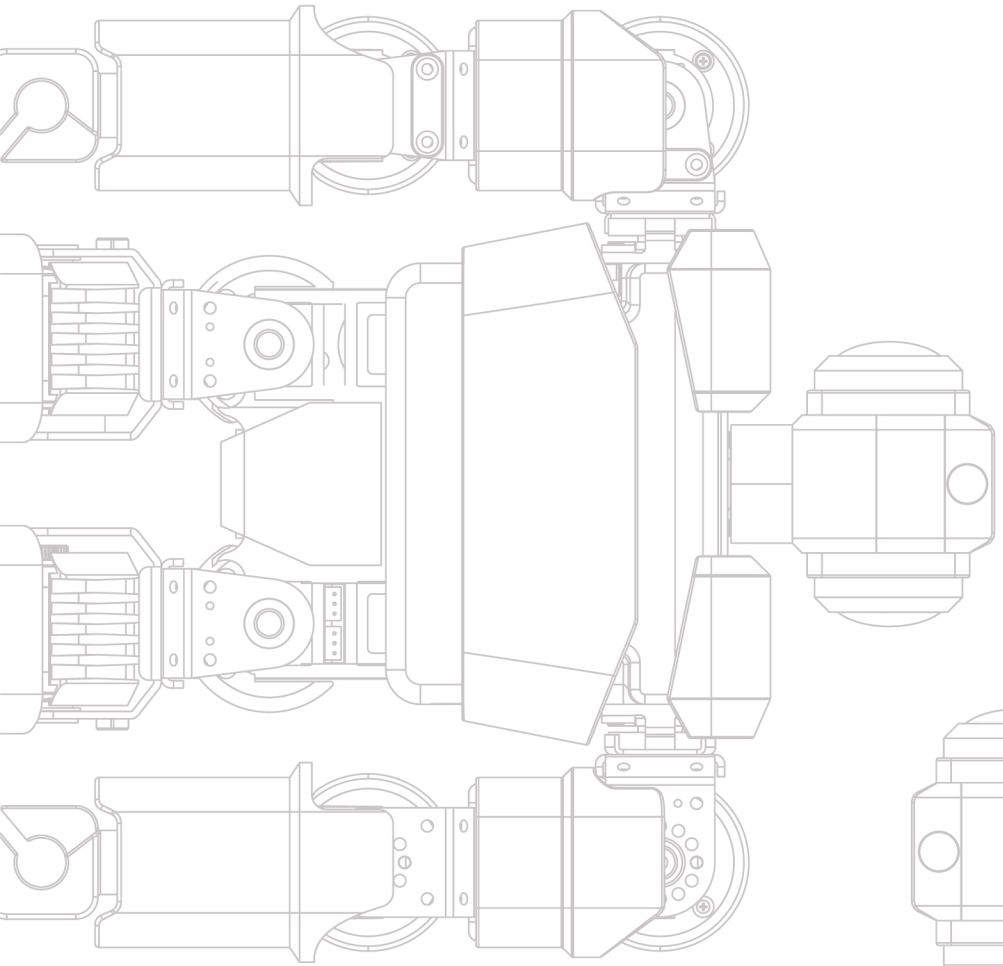
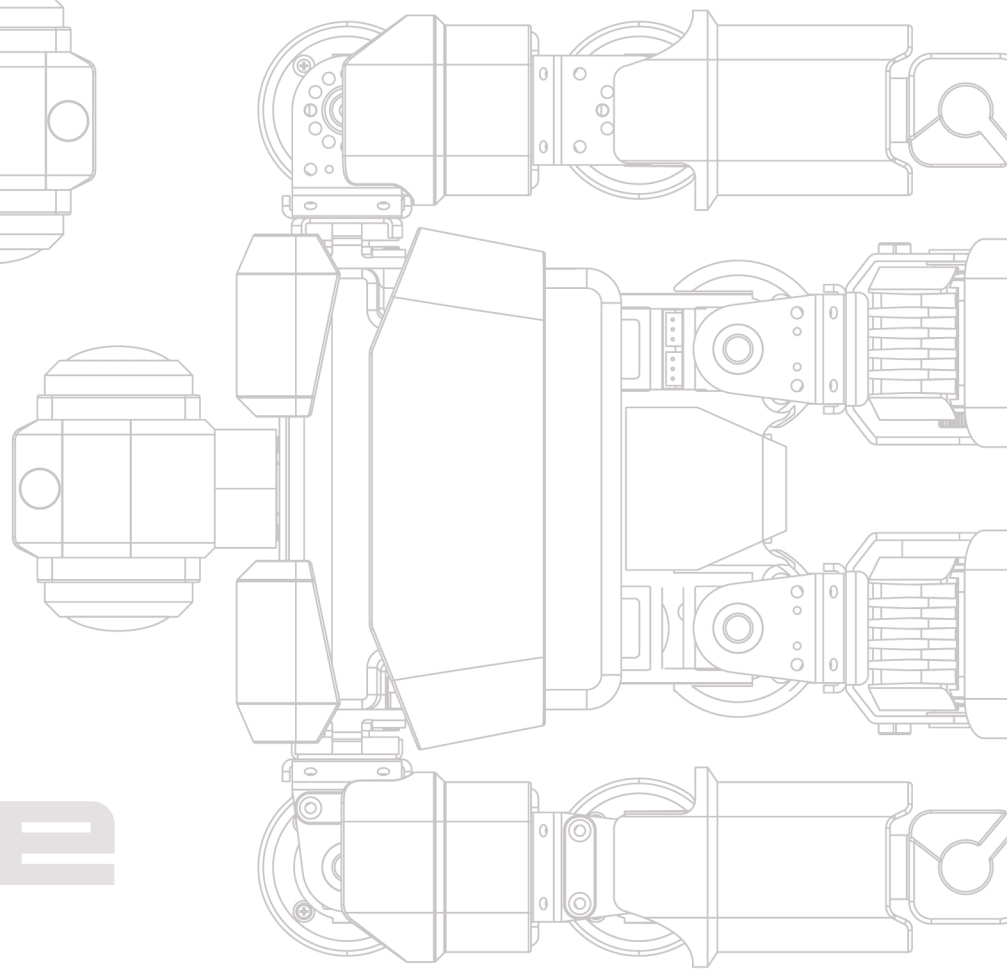
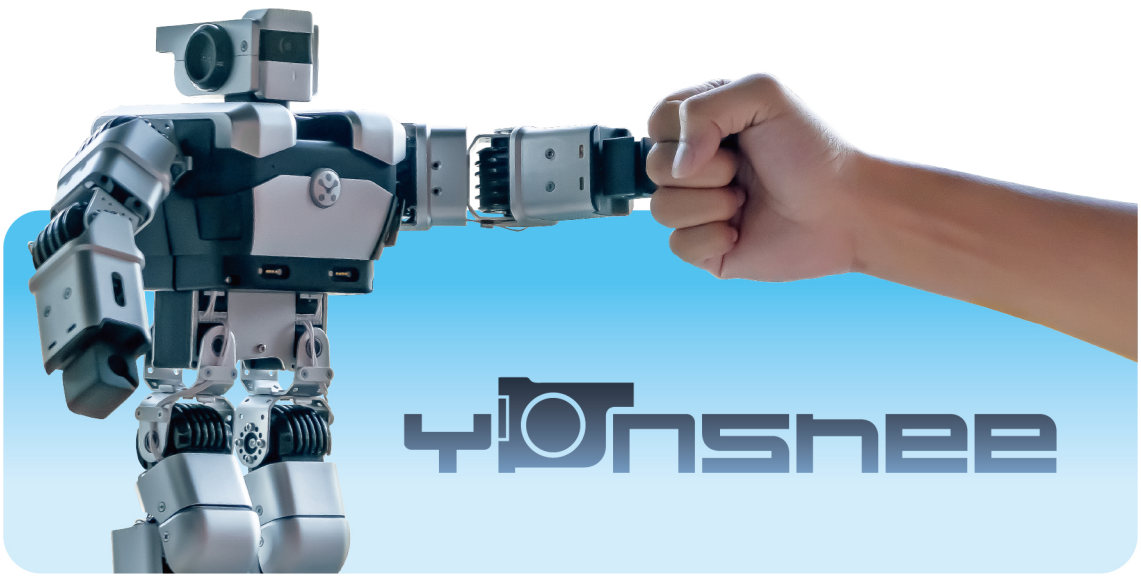




yahboom

Yanshee
Education Solution

The Yanshee education solution is specifically designed for high schools, vocational schools, and colleges. It encompasses hardware, software, curriculum, assessment and evaluation systems, as well as competitions. This comprehensive package aims to enhance students' proficiency in robotics motion control, AI, programming, and other areas of knowledge.



Open Source Humanoid Robot

- Open Source Platform
- Advance Motion Controls
- High-performance Machine Vision
- Interactive Intelligent Speech

Curriculum System

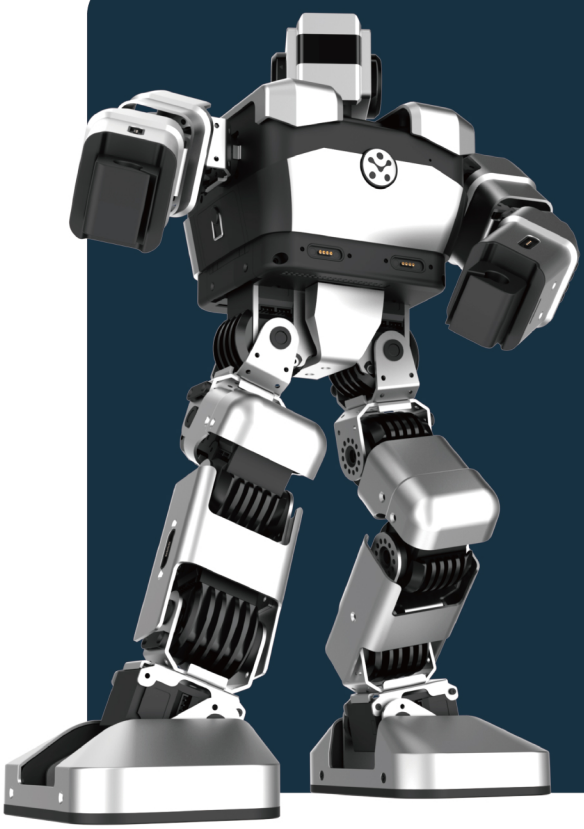
- Regular Courses
- Club Courses
- Competition Courses

Comprehensive Services

- Consultation Service
- Training Services
- Teaching Support
- Academic Research Support

Yanshee

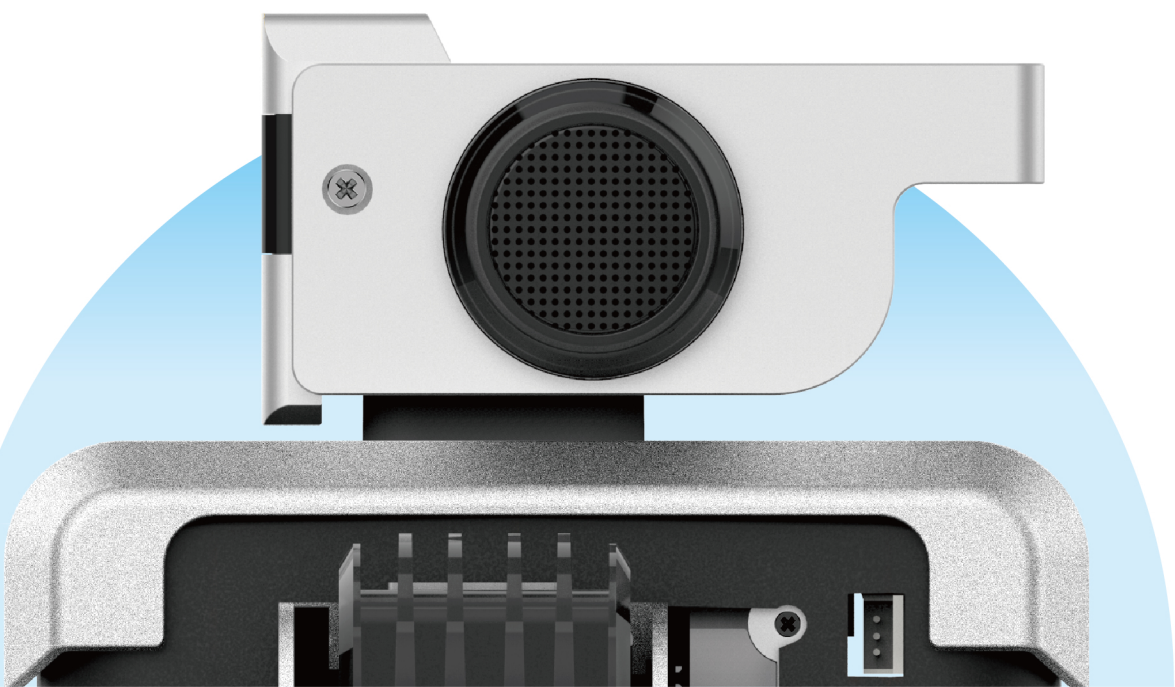
Open Source Humanoid Robot for AI Education



37.0cm*5cm

2.09kg

Yanshee utilizes the Raspberry Pi + STM32 open hardware platform architecture. It features a 17 degrees of freedom anthropomorphic design, an integrated 8-megapixel camera, gyroscope, and various communication modules. It supports a range of open-source sensor packages and provides professional open-source learning software. This software supports BLockly, Python, PHP, Java, Curl,C/C++, and more, enabling students to efficiently learn about robot motion control, AI, programming, and other knowledge. It also facilitates multiple programming language learning and AI application development.



Open Source Platform

The Raspberry Pi + STM32 structure and modular design facilitate the integration of additional external devices.
Users can take advantage of the API interface to tailor the completion of the scene design according to their individual needs.

Raspberry Pi
3B

Nine-axis
Gyroscope

1 40 PIN
GPIO Interface

6 Magnetic Suction
POGO 4PIN Interfaces

Advance Motion Control

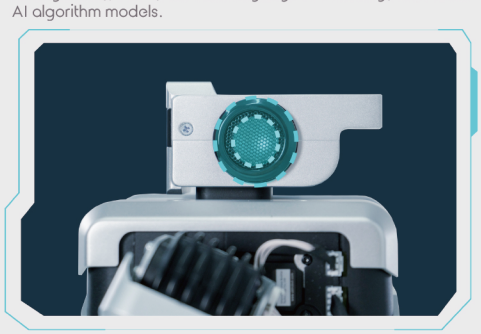
17 degrees of freedom of self-developed servo steering gear, highly humanoid design, support the robot flexible movement, push-ups, dance performances, etc.

High-performance Machine Vision

Equipped with an 8 million pixel high-definition camera, the robot can take pictures and videos, transmit video streams, support face detection/ analysis/ tracking/ recognition, and object/ gesture/ color recognition and other offline AI models.

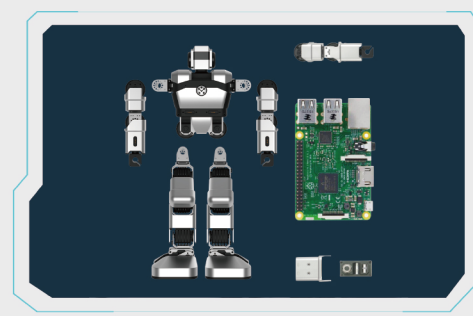
Intelligent Speech

Dual channel stereo speaker, single microphone support echo cancellation and effective noise reduction. Support dialogue chat, built-in voice commands about volume adjustment, motion triggering, OTA upgrade, visual recognition and so on, support TTS (Text To Speech), ASR (Automatic Speech Recognition), NLP (Natural Language Processing) and other AI algorithm models.



All-metal Body and Detachable Structure

An aluminum frame is adopted to reinforce the body and a detachable structure makes assembly easier.



Software and Programming Tools

uCode

uCode is a programing software combining software and hardware which has been developed by UBTECH and is specially designed for adolescent students aged 8-14. Programming is carried out by dragging building blocks instead of using a keyboard.uCode can not only be used to create interesting games and cartoon works, but also be used to program UBTECH hardware products, and even achieve a virtual reality capability by interacting software and hardware by means of combined programming to guide students to realize their creativity.

- Graphical Programming
- AI Hardware Open Patform
- Burning Mode for Advanced Programming

uPython

uPython serves as a programming tool designed exclusively for middle and high school students, aiming to facilitate their learning of Python coding. The editor encompasses a range of valuable features, including Python bootstrap templates, GUI visual programming, interactive debugging via jupyter notebook, efficient management of Python libraries, and hardware device programming.

- Python Programming
- Code Completion
- Software and hardware Interaction
- Visual Library Management

Yanshee APP

iOS

Yanshee APP is a smart software for connecting and controlling Yanshee robots, with a graphical operating interface, integrating several functions such as motion control, Blockly programming, PRP programming, real-time sensor data viewing and introduction to Yanshee developer platform, helping users to easily get started controlling robots on mobile.

- Motion Control
- Centralized Control
- Blockly Programming
- PRP Pose-Record-Play
- Sensor
- AI Module

Yanshee API

YanAPI is an advanced open-source API for Python language, designed for secondary development. It offers a powerful and comprehensive set of features, with a simple and user-friendly interface. With just a few lines of code, you can achieve the desired effect and easily customize your own unique and fascinating AI robot.

Open Source Software

Yanshee operates on the Linux operating system and enables the utilization of third-party open source software for programming objectives.

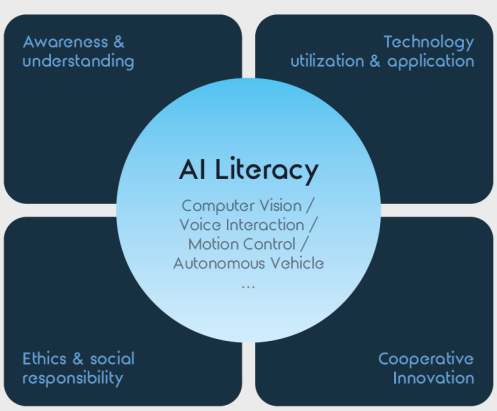
- jupyter — JubyterLab
- ROS.org — ROS.SDK
- RESTful — RESTful API

Yanshee Curriculum System

Yanshee Curriculum is designed to focus on international guideline standards such as CSTA, AI4K12 and also the UBTECH Artificial Intelligence Knowledge Mapping.Covering form k-12 to college.

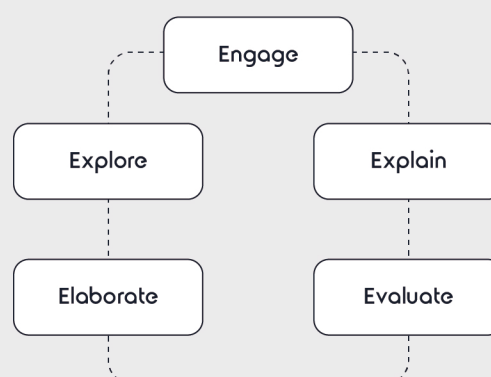
Curriculum Name	AI Super Designer	Application and Exploration of AI	Application and Trainging of Humanoid Robot
Class Hour	30 Class Hour	30 Class Hours	30 Class Hours
Recommended Grades	Grade 10-11/High school	Grade 11-12/High school	Vocational school/College
Programming Language	Python	Python	C, C++, C#, PHP, Java, Curl, Python
AI Capabilities	Primary application of artificial intelligence	Comprehensive application of artificial intelligence	Comprehensive application of artificial intelligence
Learning Tools	Yanshee API	Yanshee API	Yanshee API
	Yanshee Robot + Yanshee Sensor Kit	Yanshee Robot	Yanshee Robot
Interdisciplinary speciality	Maths, Science, Physics, IT		

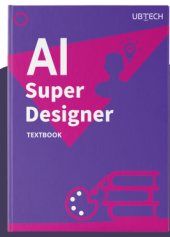
UBTECH Artificial Intelligence Knowledge Mapping



5E Model

The curriculum design integrates the concepts of large units and PBL projects and adopts the "5E" model to provide scientific guidelines for teaching and learning practices.





Recommended for

High School Grade10-11

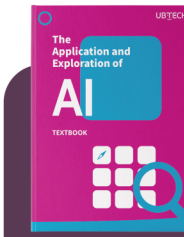
Curriculum Description

14 topics | 30 class hours

Through this class, learn the basics of Python related algorithms with the support of Yanshee. Use typical cases in life as examples to guide students to think of algorithms and learn basics of grammars, sorting method, recursion operation, binary tree, greedy algorithm and other algorithms. Learn the Python algorithms to broaden students' thinking and vision. Stimulate students' interest in algorithms, and cultivate an attitude of careful study.

AI Core Literacy and Skills

- Face Recognition
- Speech Synthesis
- Machine Learning
- Sensing
- HMI
- Technology and Algorithm



Recommended for

High School Grade11-12

Curriculum Description

12 topics | 30 class hours

Learn and explore the AI field by AI applications in various industries and sectors. Through this class, understand the development and principle of AI technologies and the applications of the AI technologies in society and life. Enable students to understand how AI helps people improve working efficiency and living quality based on typical applications of AI, and guide students to think of and learn the basics of AI, including study fields of AI, machine learning, and artificial neural network. By looking to the future development of AI, image the future society and broaden the thinking and vision of students. Motivate students' interest in AI and help them establish a correct view of scientific and technological application.

AI Core Literacy and Skills

- Neural Network
- Machine Learning
- Sensing
- HMI
- Technology and Algorithm
- Social Responsblity

Recommended for

Vocational School /College

Curriculum Description

15 topics | 30 class hours

Students can learn about the operating environment and perception and motion ability of humanoid robots, understand the basic knowledge of sensor applications and machine vision of robots, and be familiar with the comprehensive application of robot systems, interaction, and operation control. Learn related knowledge points such as robotics, artificial intelligence, machine vision, and machine speech through experimental demonstrations, verification, or exploration.

AI Core Literacy and Skills

- Technology and Algorithm
- Machine Learning
- Motion Control
- Intelligent Speech
- Machine Vision
- Sensing

Comprehensive Services

Builds a multi-scenario AI education RaaS based on AI and robot technology

Founded in 2012, UBTECH Technology is a leading global enterprise in AI and humanoid robots.

UBTECH Artificial Intelligence Education solution is based on the company's self-developed full-stack technology for humanoid robots. With the technical advantages of AI and robots, UBTECH has continuously empowered AI education to provide quality courses and comprehensive AI education ecosystems.

Innovation Talents Training

Industrial Application Talents Training

General AI & Scientific Literacy Improvement

RaaS
Robot as a Service

Service System

- Consultation Service
- Training Services
- Teaching Support
- Academic Research Support
- Industrial Training
- Career Guidance
- Event Service
- Achievement Exhibition Service
- Assessment Service & Certification
- Professional Construction
- Job Skills Certification
- ...

Products and Content System

AI Hardware System


Assembled Robot


Multi-mimetic Robot


Humanoid Robot

Software System

uCode | uPython | Crealand

Content System

Platform Support System

Technology Platform

- AI Education Platform
- OMO Operation Management Platform

Ecological Resources

- Society / Association
- Experts and Scholars
- Research Institutions
- Enterprise Partnership

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