# 比邻星科技

**Artificial Intelligence Development Kit** 

The AI development kit is tailored for AI-related majors, integrating computer vision systems, speech processing systems, robotic arms, gesture sensor, temperature and humidity sensor, atmospheric pressure sensor, and other embedded application modules. By building edge computing terminals, it provides a unified communication protocol and interface for the development of applications related to AI majors. The AI development kit is based on the Linux operating system and uses Python for development, making it suitable for teaching practices in multiple courses related to AI majors.

















Embedded Systems and Applications

Intelligent machine application

# Product Features

- 1. Utilizes an experimental box structure, providing a 17-inch screen, keyboard, mouse, and experimental tools, ready to use out of the box;
- 2. Employs edge computing terminals to provide computing power, supporting the deployment of mainstream artificial intelligence frameworks such as PyTorch and TensorFlow;
- 3. Integrates various components and technologies including machine learning, deep learning, machine vision, speech recognition, robotic arm control, and embedded sensors;
- $4. \, Supports \, combinatorial \, experiments \, such \, as \, 2D \, vision \, + \, robotic \, arm, \, depth \, vision \, + \, gimbal, \, speech \, + \, sensor, \, speech \, + \, 2D/depth \, vision, \, and \, speech \, + \, robotic \, arm, \, depth \, vision \, + \, gimbal, \, speech \, + \, sensor, \, speech \, + \, 2D/depth \, vision, \, and \, speech \, + \, robotic \, arm, \, depth \, vision \, + \, gimbal, \, speech \, + \, sensor, \, speech \, + \, 2D/depth \, vision, \, and \, speech \, + \, robotic \, arm, \, depth \, vision \, + \, gimbal, \, speech \, + \, sensor, \, speech \, + \, 2D/depth \, vision, \, and \, speech \, + \, sensor, \, speech \, + \, speech$

## Product function



## AI + visual sorting

The combination of robotic arms and vision systems can achieve basic Al training projects such as product classification and target sorting. It can also perform identification of various complex objects based on deep learning models, and conduct practical training for enterprise-level projects.

#### AI + depth vision

Compared to traditional 2D vision, depth vision can achieve height measurement, distance measurement, contour detection, etc., thus enabling comprehensive experimental training such as obstacle distance detection, live body recognition, and target tracking.





#### Al+ speech processing

The sound source localization microphone supports functions such as sound detection, intelligent voice recognition, sound source localization, and beamforming. With the interaction with the AI processor, it can guide the robotic arm to execute specific actions based on voice commands.

### AI + Embedded Sensors

Provides 12 types of embedded sensors including temperature and humidity sensors, motion sensors, barometric pressure sensors, light sensors, etc. It can be used for comprehensive experimental training in embedded directions such as security monitoring systems, intelligent voice control systems, intelligent temperature control systems, etc.



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