



Kittenbot KOI AI Module Based on K210 (RISC-V) - Supported by Micro:bit/Arduino/Raspberry Pi

SKU 101990646

Features

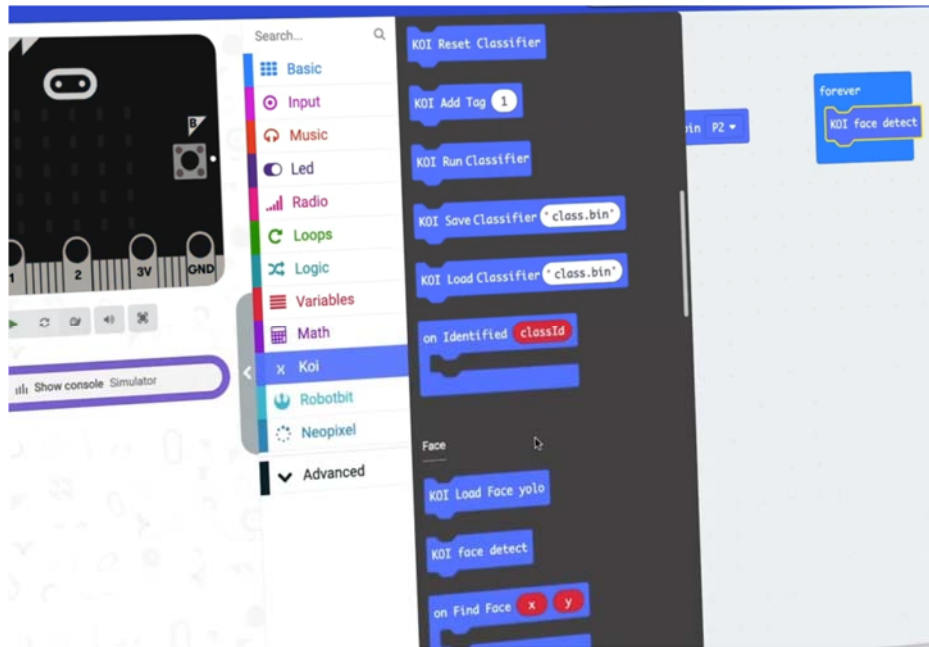
- Featuring K210 RISC-V 64-bit Dual-Core CPU for Powerful AI Applications
- Simply adds an AI brain to your projects with this cost-effective offline AI module
- Comprehensive AI functions, including visual recognition, speech recognition, and speech synthesis
- Discover AI through the simplicity of block-based programming
- Ability to self-train on the module itself with the support of importing pre-trained models

Description

Want to add AI functionalities to your Micro:bit, Arduino, and Raspberry Pi projects? KOI got you covered. It simply adds an AI brain to your projects.

KOI is an Artificial Intelligence Module featuring the powerful Kendryte K210 SoC with 16MB of flash storage. However, if you want to add more storage for your demanding AI projects, the built-in SD Card slot allows you to do so, with support up to 16GB.

KOI takes a block-based programming approach which is simple and easy to learn, and it makes AI accessible to everyone!



This is powerful enough to do AI processing and model training on the module itself and supports importing pre-trained models as well. Furthermore, it features an adjustable camera, a microphone, a speaker, and an IPS display which makes it a complete package to get started with AI!

With the integrated Wi-Fi onboard, your device is able to connect to the cloud to upload and process data, which is an essential part of machine learning.

It can also realize functions such as vision recognition, speech recognition, speech synthesis, and much more. Its multiple functions enhance the learning of AI more systematical and comprehensive.

If you want to connect this module with your Lego projects, it has 4 Lego mounting holes which will help you to connect to your Lego projects.

KOI is Supported by The Following Boards

KOI can be connected with the following boards via the UART Interface. Also, it supports other microcontrollers that have serial port functions.

- Micro:bit
- Arduino
- Seeeduino
- Raspberry Pi
- Kittenbot Meowbit



Specifications

| | |
|-----------------------------|---------------------------------------|
| MCU | Kendryte K210 |
| Flash | 16MB |
| Display | 1.3" IPS screen (240x240) |
| Camera | RGB (640x480) |
| Audio input / output | 48K single-channel sample rate output |
| | 8K sample rate microphone input |

| | |
|-----------------------------------|-----------------------------|
| Wi-Fi | Based on ESP8285 |
| Data output mode | UART / Wi-Fi / USB |
| Image transmission channel | USB / Wi-Fi |
| Buttons | 2 x Programmable, 1 x RESET |
| Memory Card support | SD Card (≤16GB) |
| Power supply | 3.3~5V |
| Dimensions | 58*40*24mm |

Supported Programming Environments

- Kittenblock
- Makecode
- Micropython
- Arduino (PlatformIO)

Tip

We offer a variety of products from Kittenbot which are compatible with Micro:bit. [Click here](#) to learn more about these products.

Tip

If you want to learn more about Artificial Intelligence, don't forget to check our blog [Introduction to Artificial Intelligence for Makers](#).

Tip

To learn more about other different RISC-V based products offered by Seeed Studio, hop on to our blog [RISC-V Based Products Collection and Resouce Roundup at Seeed Studio](#).

Applications

- Face recognition (Supports 20 classifications, outputs position and confidence)
- Classifier (The user-defined recognition of any object supports up to 20 classes within 100 sample size; offline training, no computer operation or pre-loading of classification model to SD is needed)

- Visual tracking (Circle / Rectangle / line / color block)
- Voice Processing / IoT (Speech recognition & synthesis, Voice recording & playing, Voice transformation, Offline keyword recognition, Access of network or local sound database)
- Scanning (Image recognition, OCR character recognition, license plate recognition, expression recognition, etc)

Hardware Overview





Parts List

- Kittenbot KOI AI Module x1
- Micro-USB Cable x1
- 4-Pin Dupont Cable x1

ECCN/HTS

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|--------|------------|
| HSCODE | 8504909090 |
| UPC | |