

INDUSTRIAL PRODUCT DATASHEET

Grove - Vision AI Module V2 - Arm Cortex-M55 & Ethos- U55, TensorFlow and PyTorch supported, Arduino, Raspberry Pi, Seeed Studio XIAO, ESP-based dev board compatible

Grove - Vision AI Module V2 combines Arm Cortex-M55 & Ethos-U55 AI processing with TensorFlow/PyTorch model support and broad compatibility for facial keypoint detection, human pose estimation, and object detection.

SKU

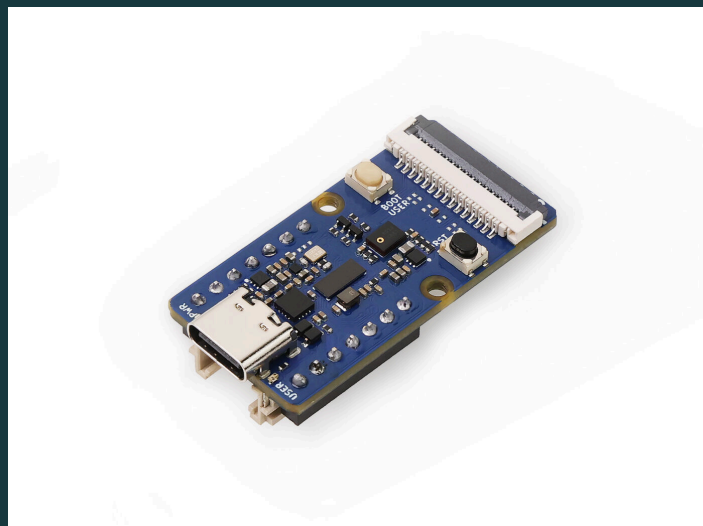
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PRICE

\$15.99(Excl. VAT)



Overview



The Grove - Vision AI Module V2 features the WiseEye2 HX6538 processor with dual-core Arm Cortex-M55 and integrated Arm Ethos-U55 neural network unit, supporting TensorFlow and PyTorch models including Mobilenet V1, V2, Efficientnet-lite, and Yolo v5 & v8. It provides rich peripherals such as a PDM microphone, SD card slot, Type-C, and Grove interface, and is compatible with XIAO series, Arduino, Raspberry Pi, and ESP32 dev boards for applications like facial keypoint detection, human pose estimation, and object detection.

Key Features

- **Powerful AI Processing Capabilities:** Utilizes [WiseEye2 HX6538 processor](#) with a dual-core Arm Cortex-M55 and integrated Arm Ethos-U55 neural network unit.
- **Versatile AI Model Support:** Easily deploy off-the-shelf or your custom AI models from [SenseCraft AI](#), including Mobilenet V1, V2, Efficientnet-lite, Yolo v5 & v8. TensorFlow and PyTorch frameworks are supported.
- **Rich Peripheral Devices:** Includes PDM microphone, SD card slot, Type-C, Grove interface, and other peripherals.
- **High Compatibility:** Compatible with XIAO series, Arduino, Raspberry Pi, ESP32 dev board, easy for further development
- **Fully Open Source:** All codes, design files, and schematics available for modification and use.

How's the performance of Grove Vision AI V2?

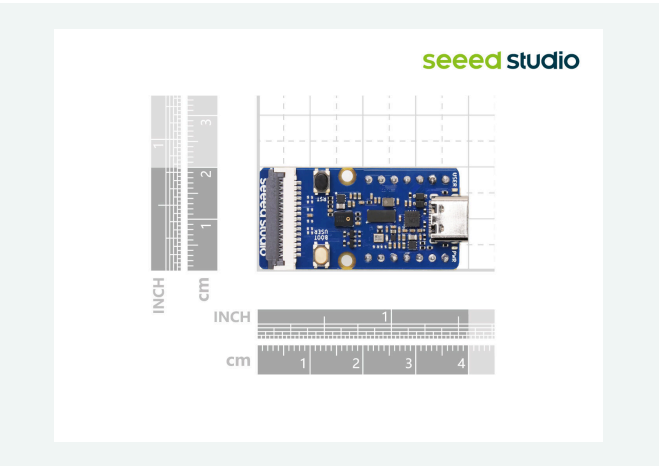
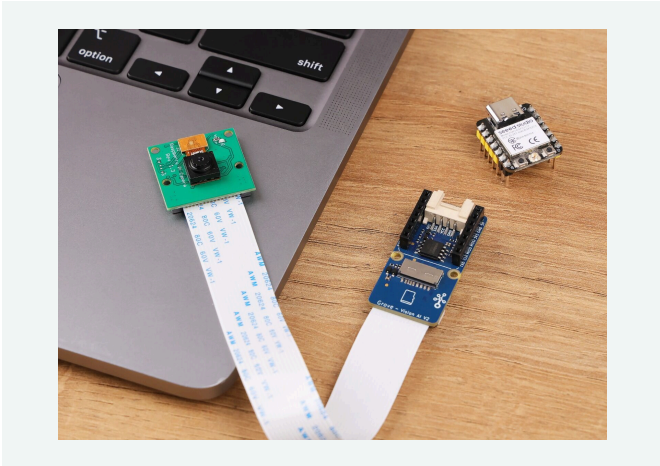
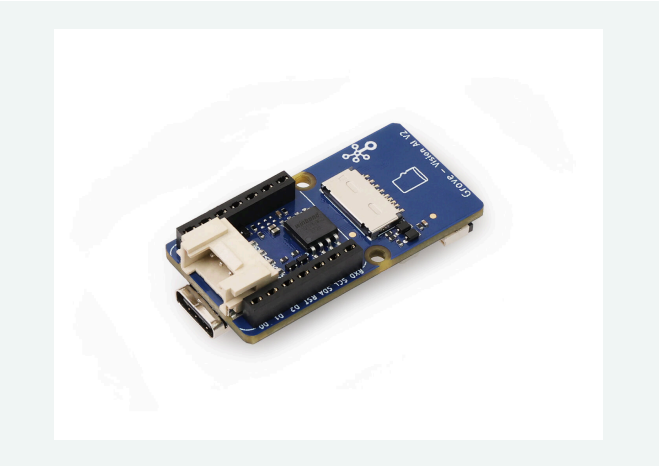
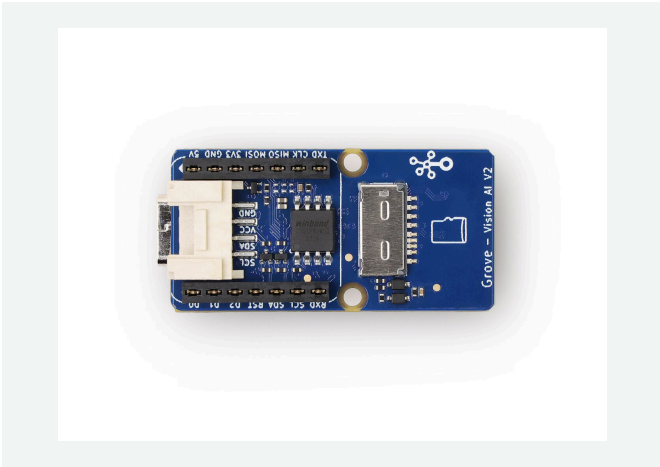
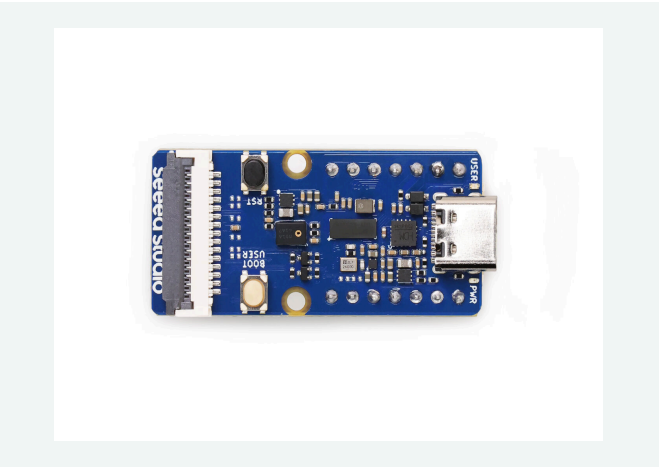
To have a quick evaluation of this board's performance, we compared it to Seeed's other MCU-based vision AI boards - [Grove Vision AI Module](#), [XIAO ESP32S3 Sense](#) in four areas:

These results clearly demonstrate that the Grove Vision AI V2 is a premium choice for high-performance vision processing.

What's on the board?

Need a complete kit with XIAO and camera options? Check out [Grove Vision AI V2 Kit](#). Want a ready-to-use compact AI camera? Choose [XIAO Vision AI Camera](#), or explore [reCamera Basic](#) for a more powerful standalone AI camera.

Product Gallery

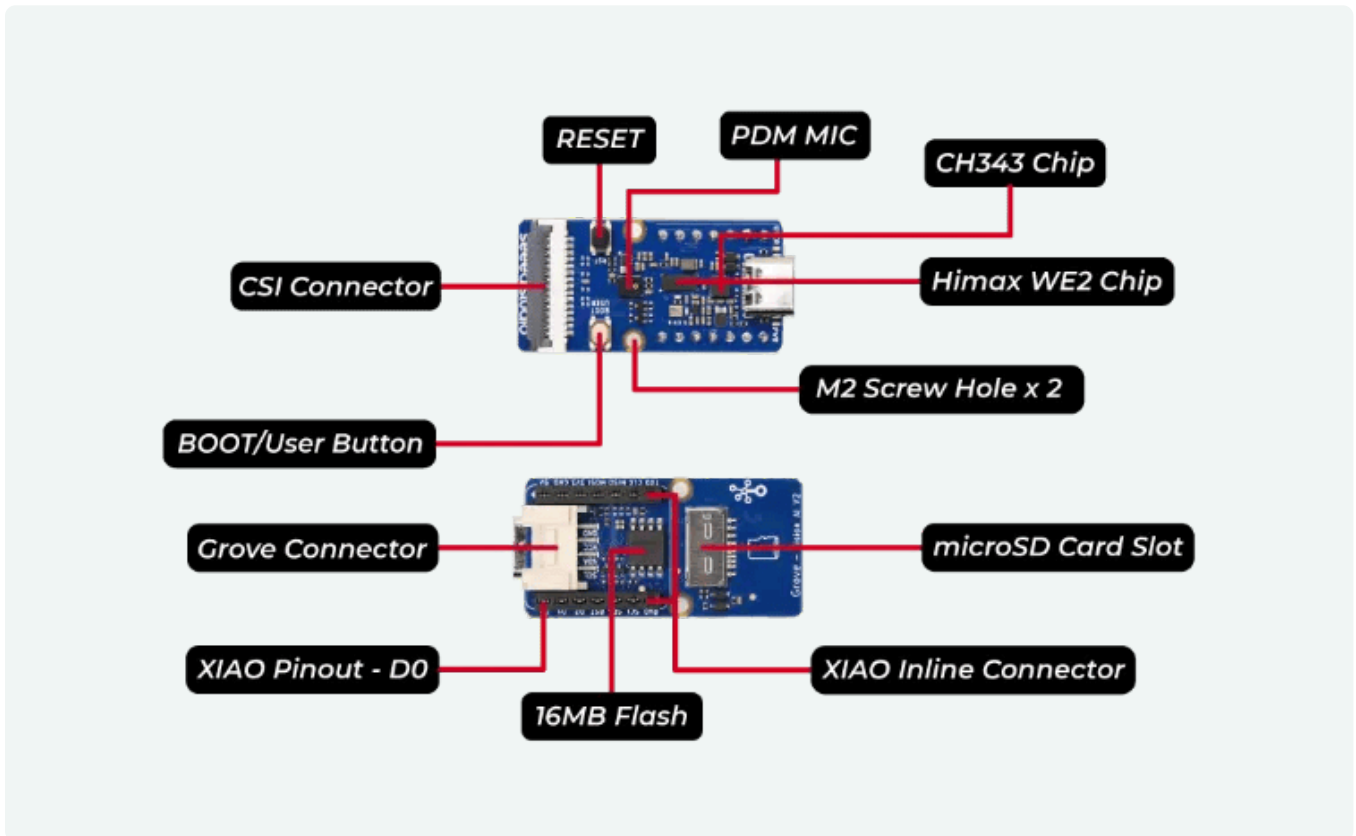


Specification

Microcontroller	Himax WiseEye2 HX6538 processor featuring a dual-core Arm Cortex-M55 and integrated Arm Ethos-U55
Onboard Peripherals	PDM Microphone, SD Card Slot
Rich Interfaces	CSI, IIC, UART, SPI, and Type-C

Input Voltage	5V
Power Supply	Dual 7-pin connector & Type-C & Grove Connector
Rate	115200
I2C Interface	Seeed Studio XIAO & Arduino
Downloading & Firmware Burn Interface	Type-C
Frequency(ARM Cortex-M55 Processor(Big))	Up to 400MHz
Frequency(ARM Cortex-M55 Processor(Little))	Up to 150MHz
Frequency(ARM Ethos-U55 MicroNPU)	Up to 400MHz
Memory Card Interface	Up to 1x SD and SDIO host, support DS mode, up to 25MHz
Internal System Memory	- Configurable system memory, up to 2432KB 64KB boot ROM

Hardware Overview



Applications

- **Facial Keypoint Detection:** Beyond basic facial recognition, detailed facial keypoint detection is capable of running. It accurately identifies critical features such as eyes, nose, and mouth.
- **Human Pose Estimation:** It analyzes key joints and limbs to determine human posture, identifying body parts like arms, legs, torso, and head. This is useful for fitness tracking, posture correction, and motion recognition.
- **Object Detection:** It supports powerful models like the Yolo v8n model, which can detect and classify over 80 types of objects.

Part List

Grove Vision AI V2 (camera not included)	x1
Cable	x1

Compliance & Logistics

HSCODE	9031900090
USHSCODE	9031808085
UPC	
EUHSCODE	9013101000
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/Grove-Vision-AI-Module-V2-p-5851.html>
- [3D Printed Foldable Holder for Grove Vision AI Module V2 Kit \(Grove Vision AI Module V2 + OV5647 Camera + XIAO\)](#)
- [HX6538 Datasheet](#)
- [Himax examples for Seeed Grove Vision AI Module V2](#)
- [Grove_vision_ai_v2_kit_case](#)

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