

seeed studio
the AI hardware partner

Eric Pan

2024. 7

Co-inventing physical AI Agents

About us

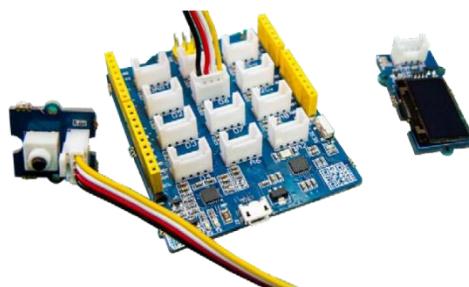
the AI hardware partner

Seeed Studio has been a leading Open Hardware company since 2008, empowering half a million direct users to create real-world digital solutions. Through relentless efforts and earned trust, our ever-growing product lines now form around emerging AI scenarios:

- Sensor networks to fetch extensive real-time data
- Edge computing to push intelligence to new frontiers

We provide industrial-ready modules and devices, and open up the capability of prototype, produce, and promote as Fusion service. Innovators from different vertical domains co-create with us to make their creations widely available for diversified markets.

By embracing open source, community building and integrated software suites like SenseCraft, we are proactively lowering the tech barriers and including users with diverse expertise for glocalized matters.



**From possibilities to
productivities**

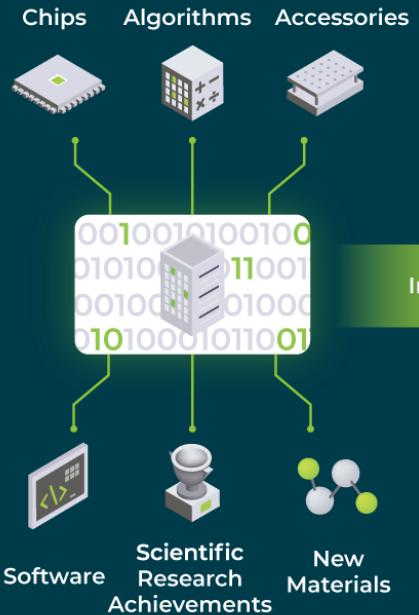


From Technology to Industry

Technologies

- Open Source Hardware
- Machine Learning
- Advanced Sensors
- Home Assistant
- Wireless, DePIN
- LLM

Emerging Technologies



Applications

- Asset Tracking
- Smart Building
- Industrial space
- Smart City
- Smart Agriculture
- Smart Energy
- Tech for good
- Open Science

Digital Economy



Traditional Industries

- Digital Infrastructure
- Smart Environment

- Smart Agriculture
- Smart Energy



Arduino



Beaglebone



Home Assistant



NVIDIA® Jetson



Raspberry Pi



SenseCAP



TinyML

Adding AI to almost anything

multi-modal

vision
sound
speech
sensors

TinyML

Faster

new architecture
(Cortex-M55)

low power

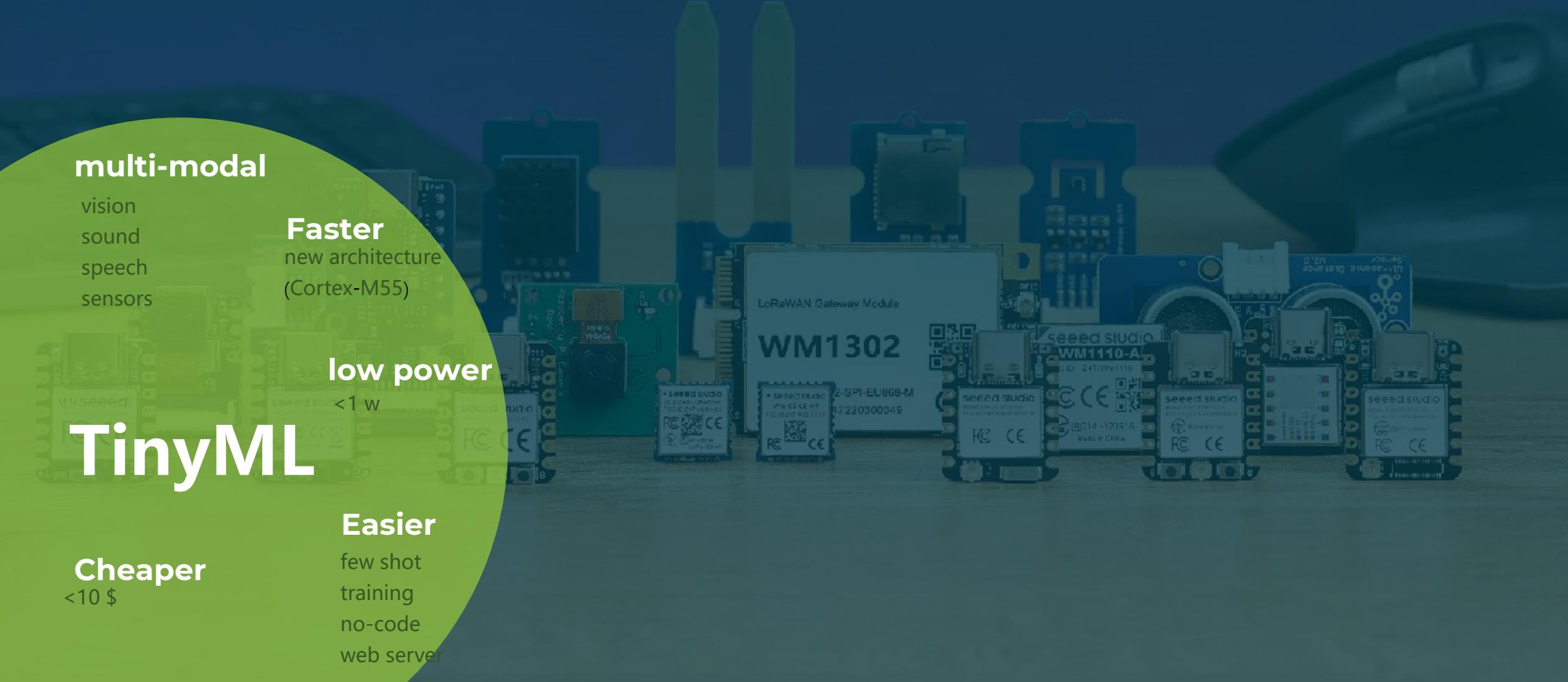
<1 w

Cheaper

<10 \$

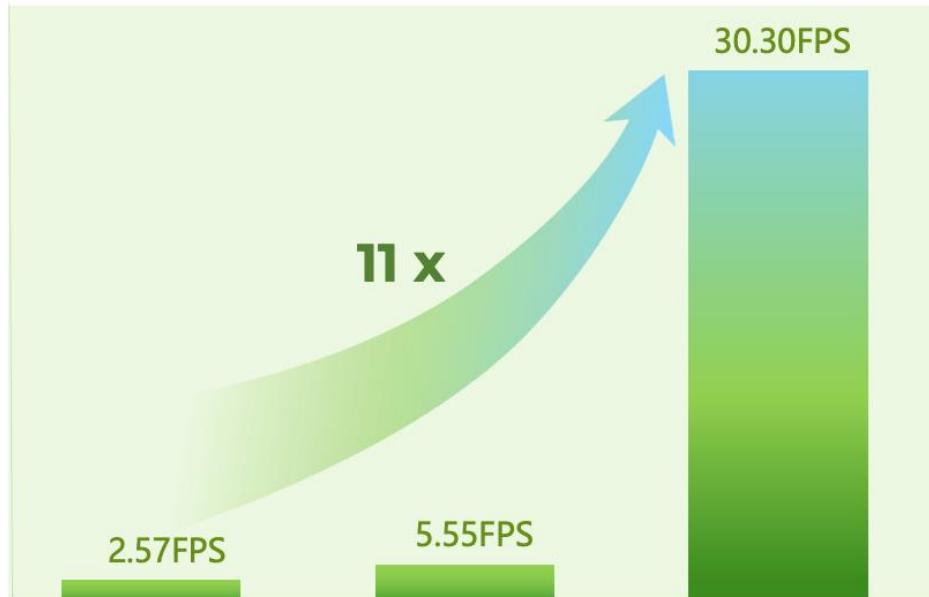
Easier

few shot
training
no-code
web server



Faster and Lower power

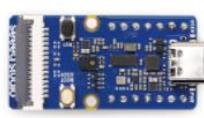
Refresh Rate



Grove Vision AI v1

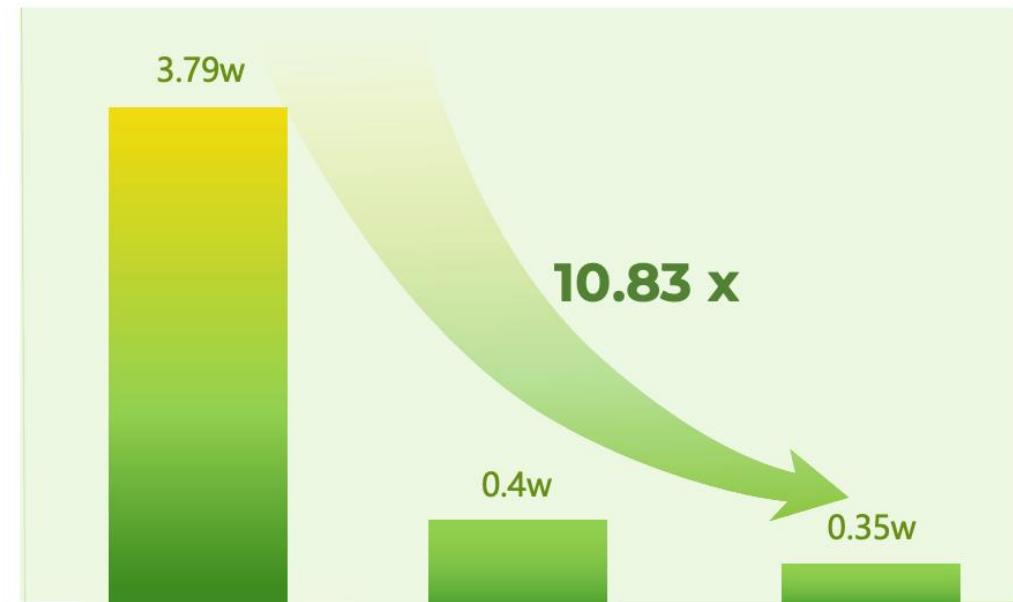


XIAO ESP32S3



Grove Vision AI v2
(M55 + U55 AI addon)

Energy Efficiency



Grove Vision AI v1



Grove Vision AI v2
(M55 + U55 AI addon)

Smaller and cheaper

XIAO - tinyML MCUs

Add AI to Almost Everything

The Seeed Studio XIAO Series is a collection of thumb-sized, powerful microcontroller units (MCUs) tailor-made for space-conscious projects requiring high performance and wireless connectivity. Embodying the essence of popular hardware platforms such as ESP32, RP2040, nRF52840, and SAMD21, the Arduino compatible XIAO series is the perfect toolset for you to embrace tiny machine learning (tinyML) on the Edge. Trusted by 500,000 developers globally!

Module and Development Board Hybrid

Enabling Rapidly Prototype While Easily Integrate, Significantly Streamline Product Development Process

Invest for Your Future

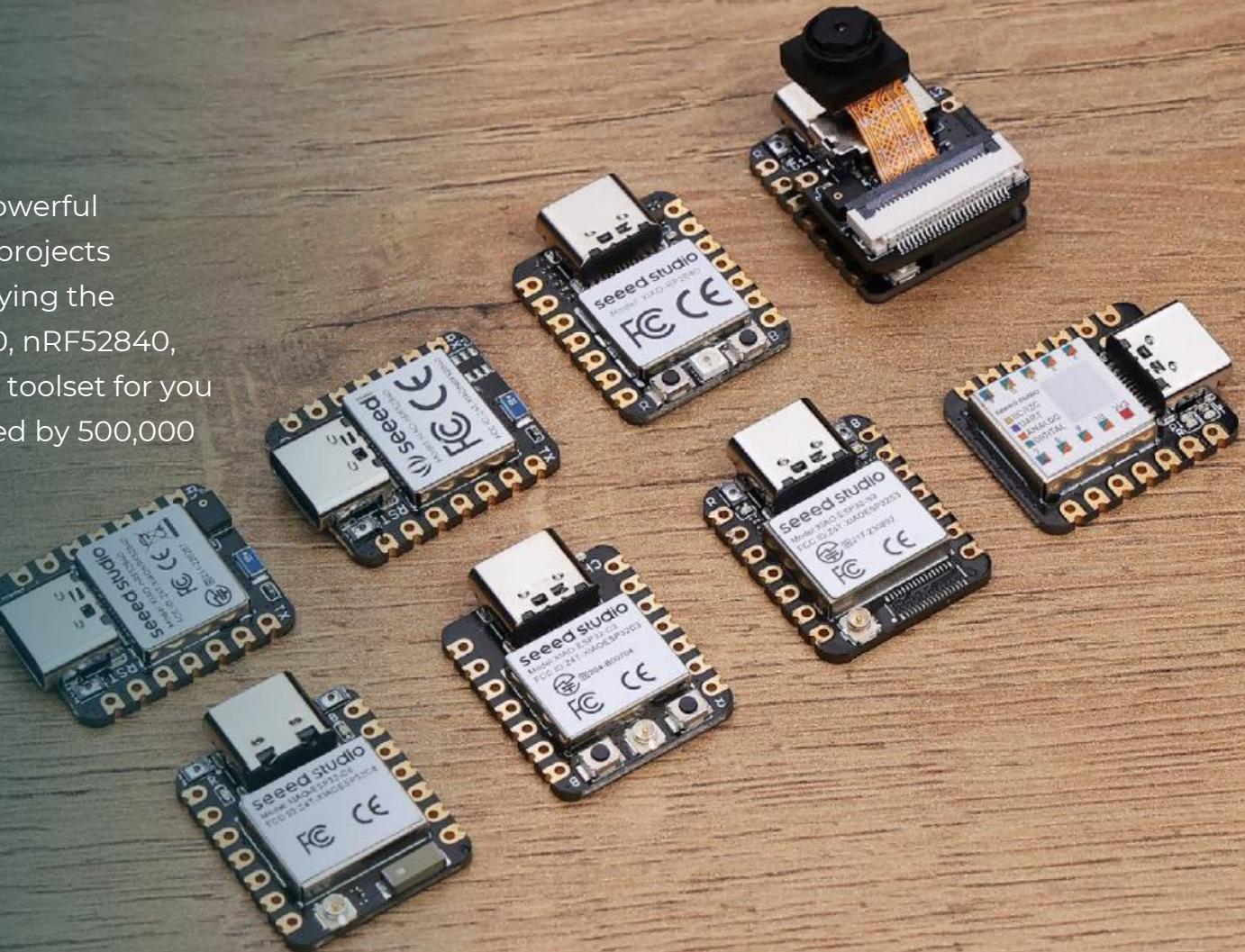
Unified Form Factor Enables You to Seamlessly Upgrade or Downgrade Your Product at the Lowest Cost

Single-Sided Surface Mount Design

Effortlessly Incorporate XIAO into Other Boards for Large-Scale Manufacturing

Strong Ecosystem Support

Extensive Software Compatibility, Abundant Community Resources, and Dedicated Technical Assistance



Easier – one click model deploy

<https://sensecraft.seeed.cc/ai>

SenseCraft AI

Home AI Models Device Workspace Sign In

2

Please input model name

13 Models Clear

Task

Detection Classification segment Pose

Supported Devices

Vision AI reComputer Jetson XIAO ESP32S3

Publisher

leo 测试环境

Public AI Models Custom Models

1

cat detection cat detection

YOLOV8 Detection reComputer Jetson

测试环境

dog detection dog detection

YOLOV8 Classification reComputer Jetson

测试环境

helmet detection helmet detection

YOLOV5 Detection reComputer Jetson

测试环境

Human Pose(small) Human Pose(small)

YOLOV8 Pose reComputer Jetson

leo

number of people the number of people

YOLOV8 Pose reComputer Jetson

测试环境

General Objects Detection Object detection is a task that involves identifying the location and class of object...

YOLOV8 Detection reComputer Jetson

leo

People(small) people detect

YOLOV8 Detection reComputer Jetson

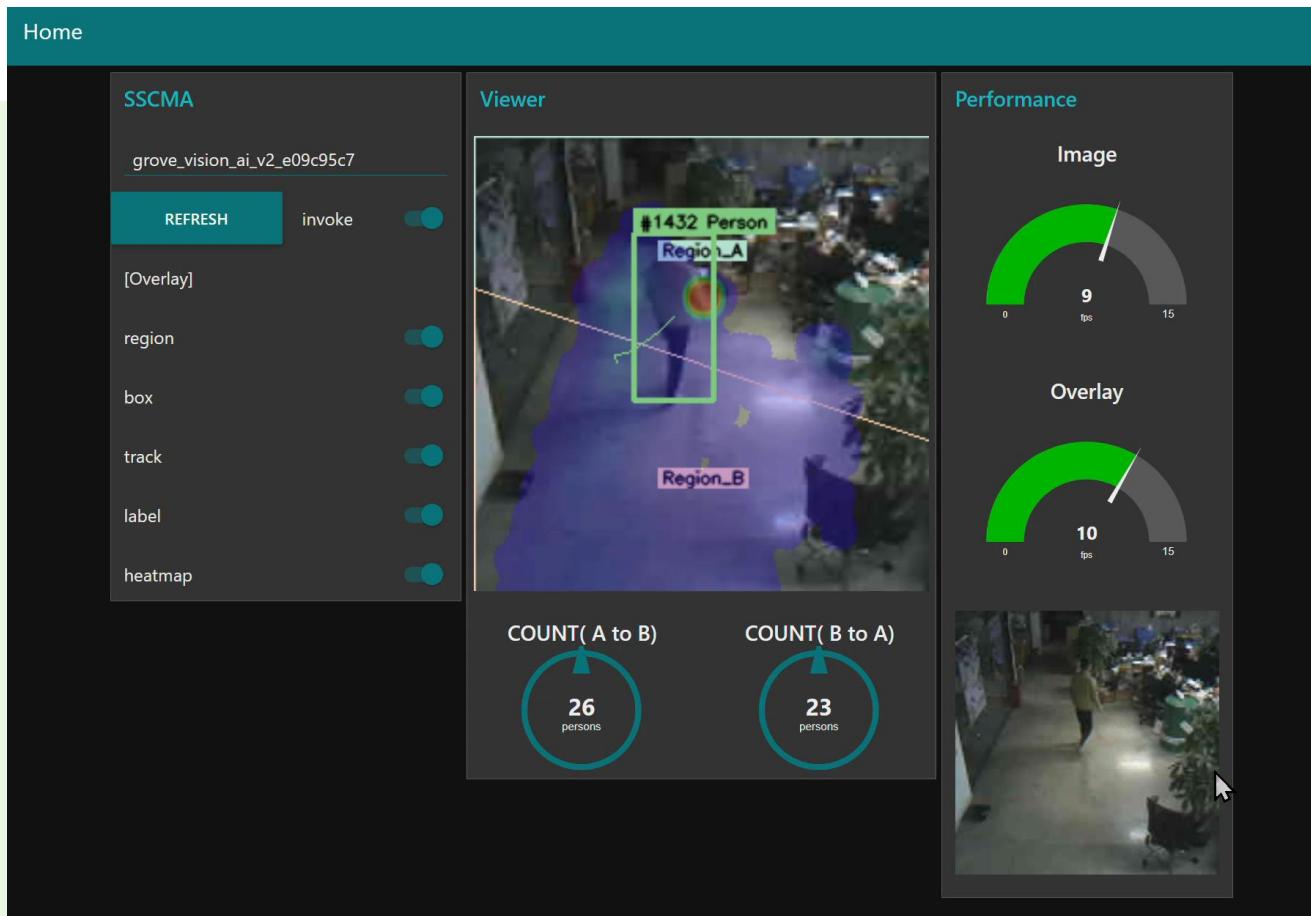
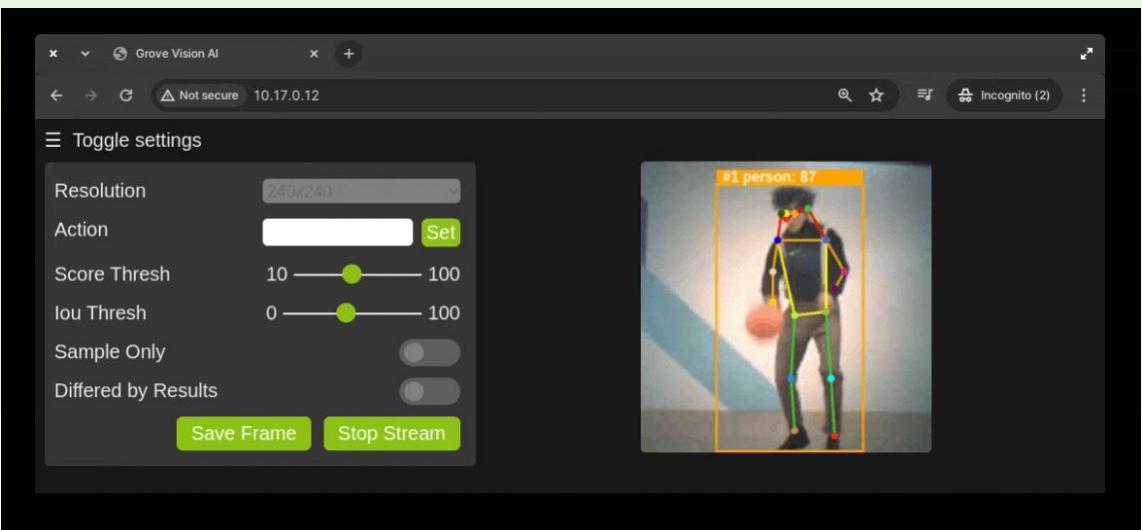
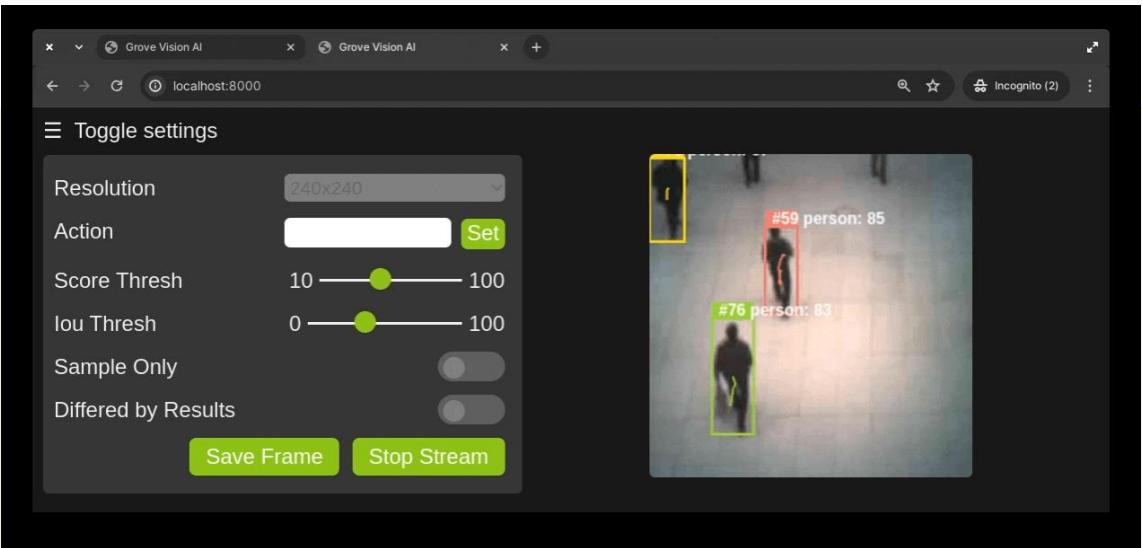
leo

3

+ Add Model

Total 13 10/page 1 2 Go to 1

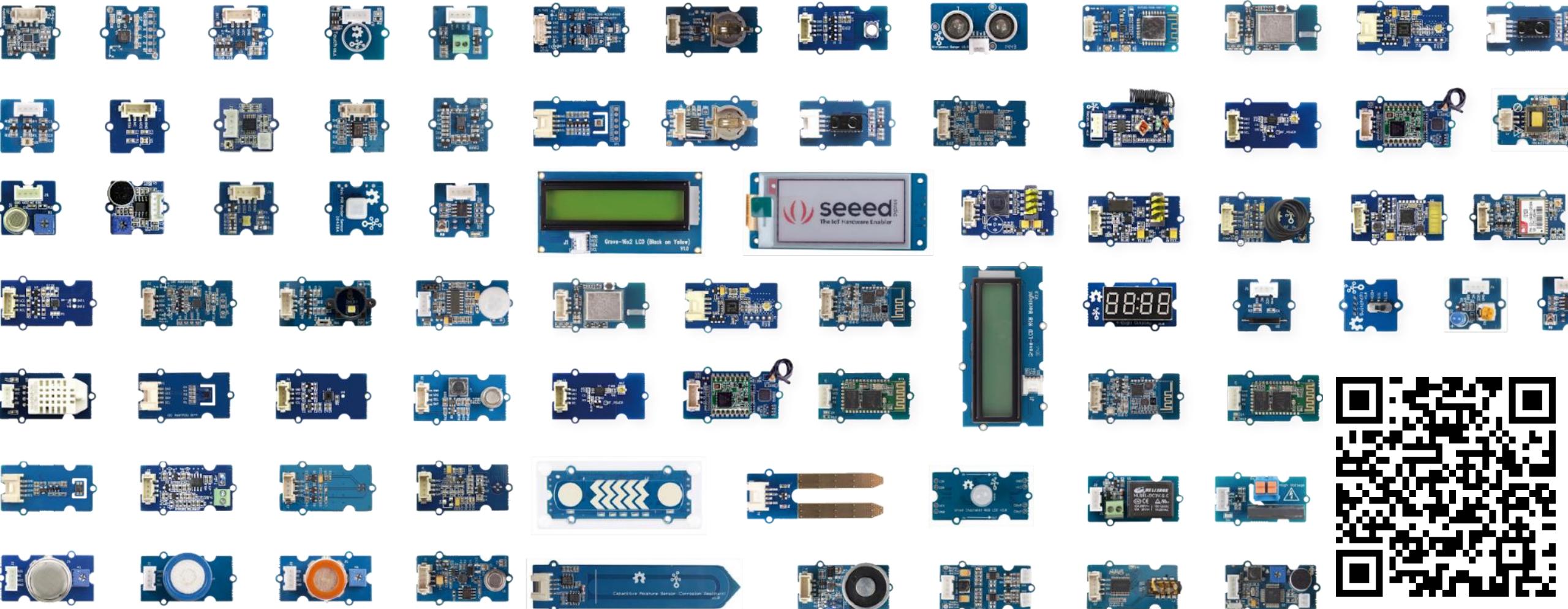
Easier - No code MLops



https://github.com/Seeed-Studio/Seeed_Arduino_SSCMA/tree/main/examples/camera_web_server

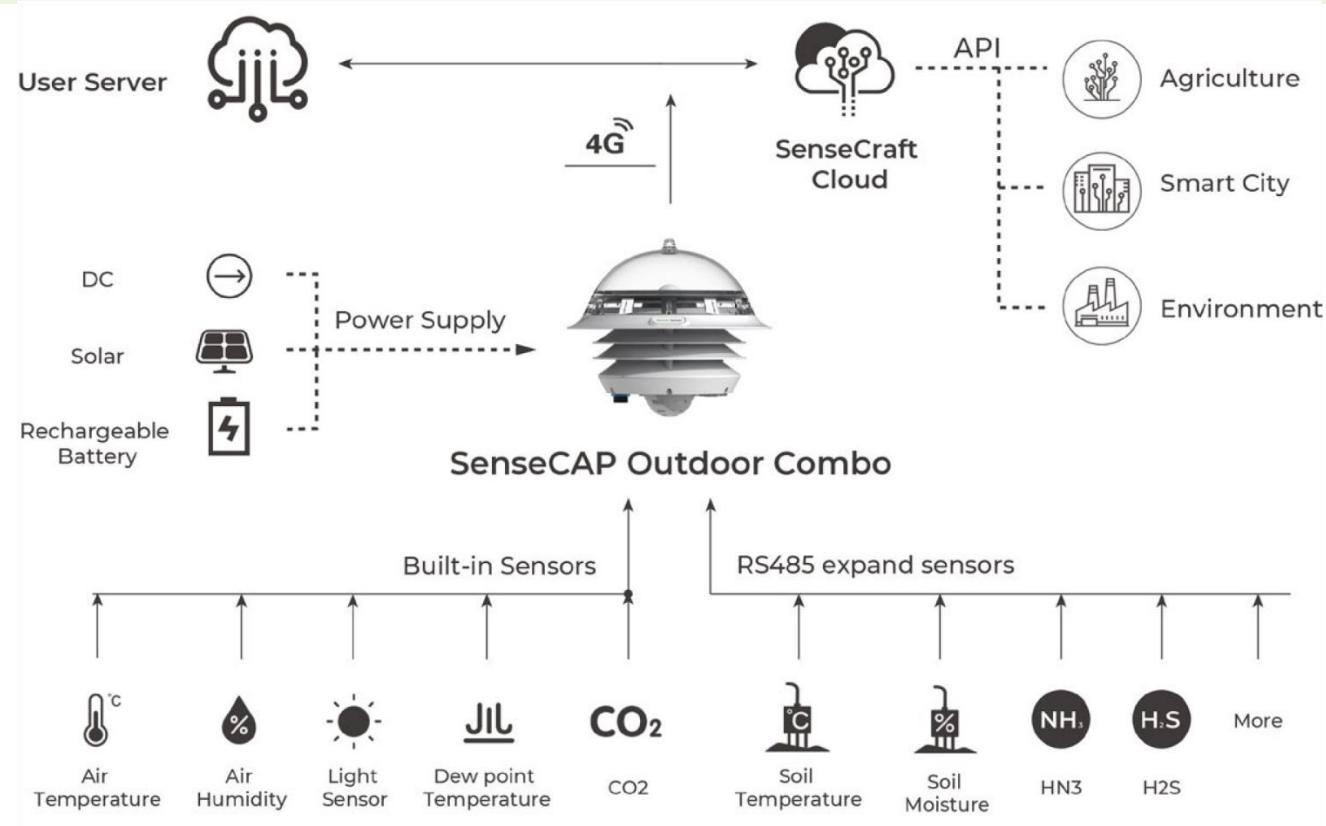
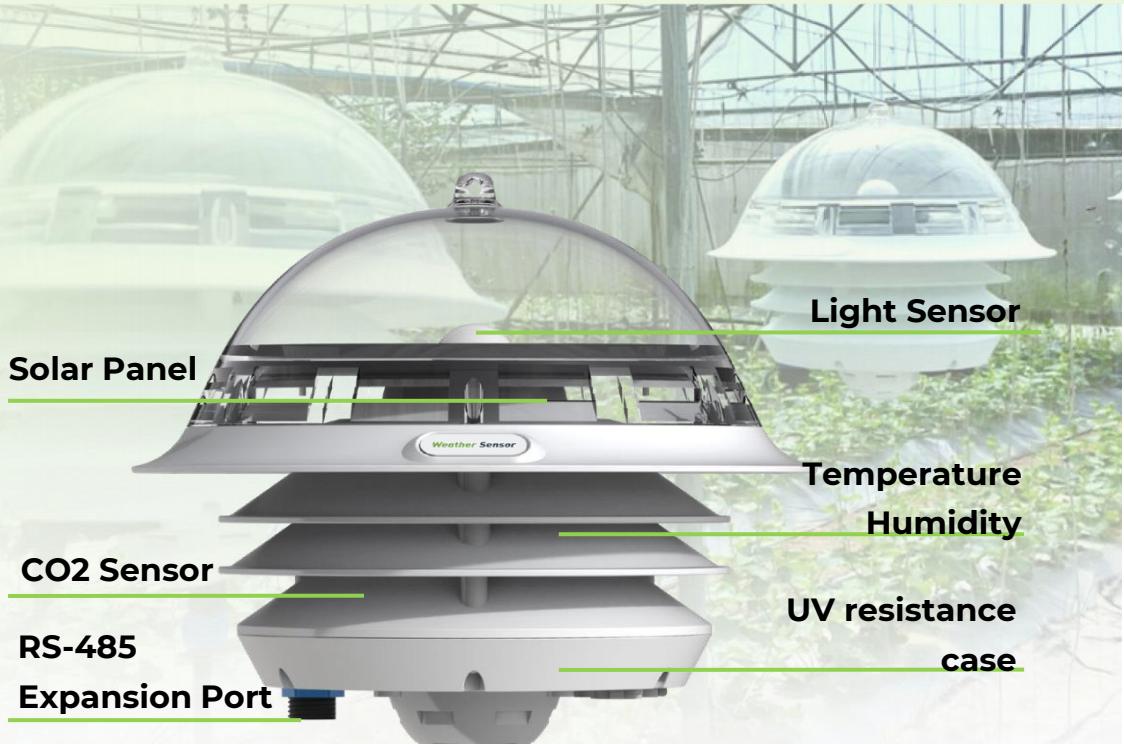
Atlas of Sensors

Nerve endings of the digital world

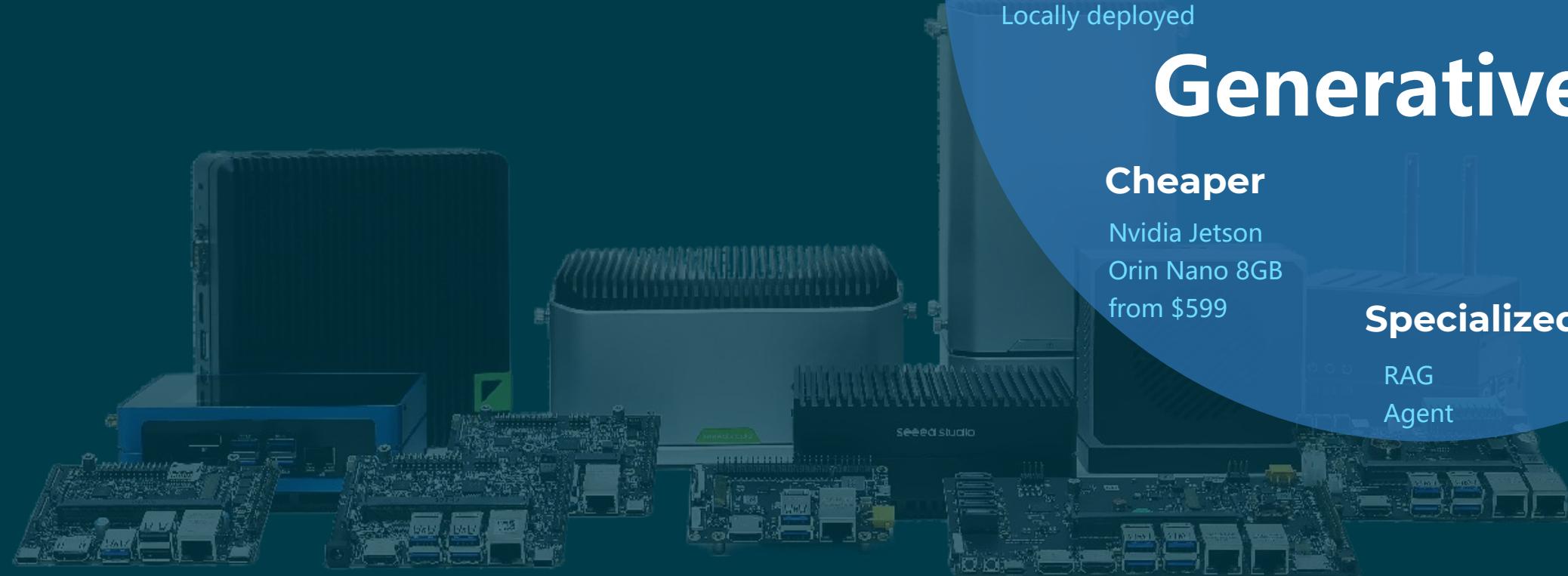


Scan code to
download

Multi-modal



Generative AI expand to real world



multi-modal

image
Speech
Sensors

Stronger

> 40T

Distributed

Locally deployed

Generative AI

Cheaper

Nvidia Jetson
Orin Nano 8GB
from \$599

Specialized

RAG
Agent

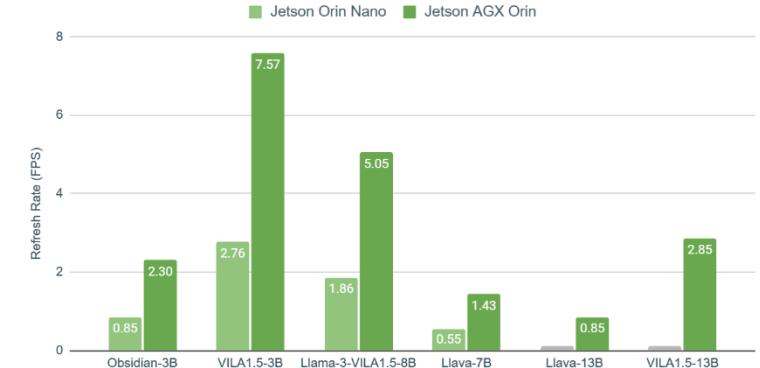
Generative AI at the Edge

Describe the image concisely.



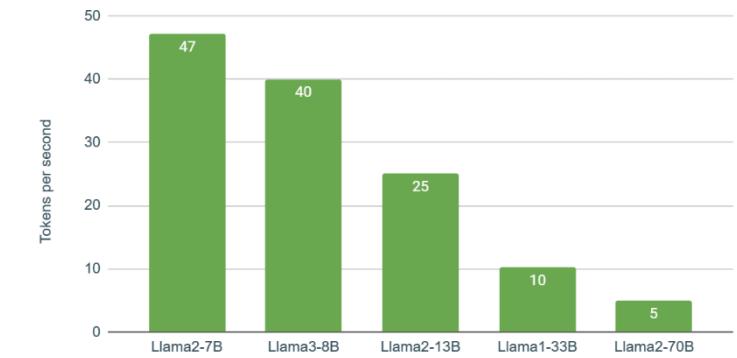
Multimodal Streaming Rate

Vision Encoder + Projector + VLM



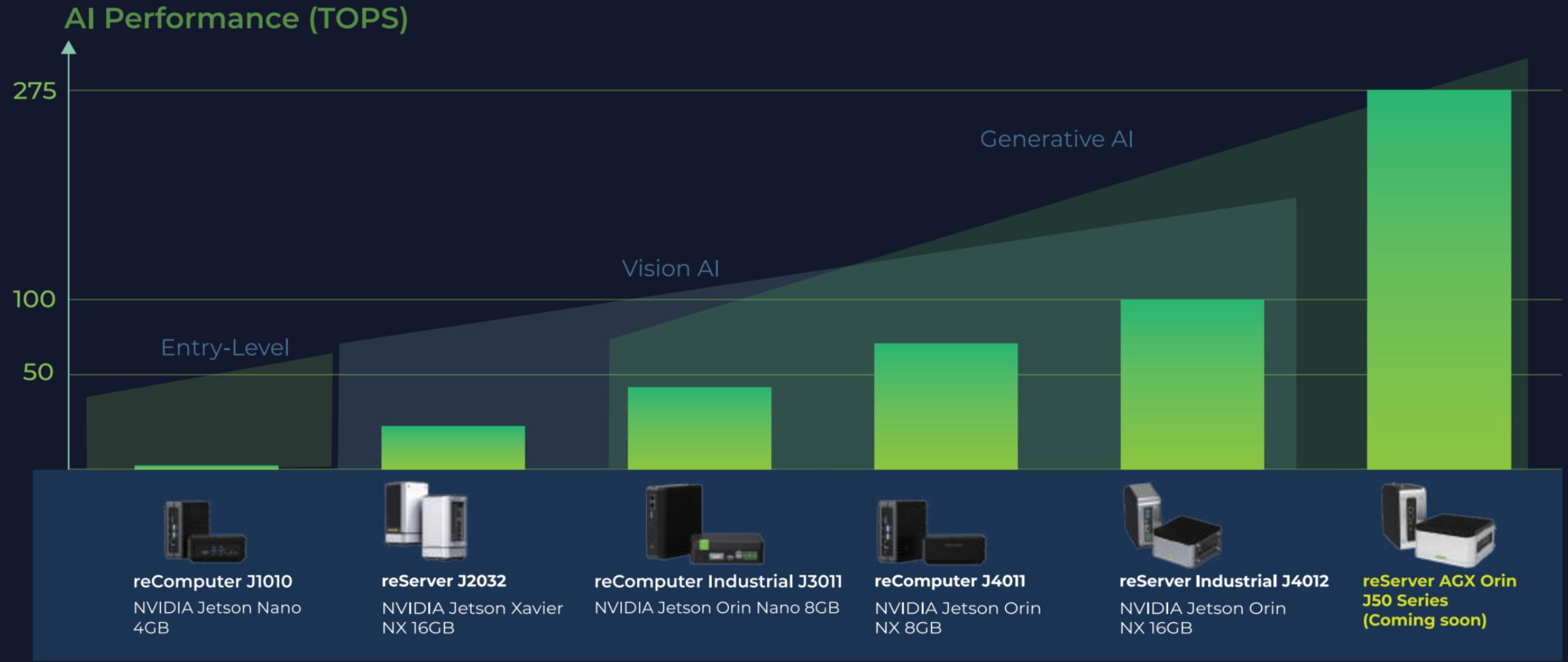
LLM Text Generation Rate

Jetson AGX Orin, 4-bit Quantization

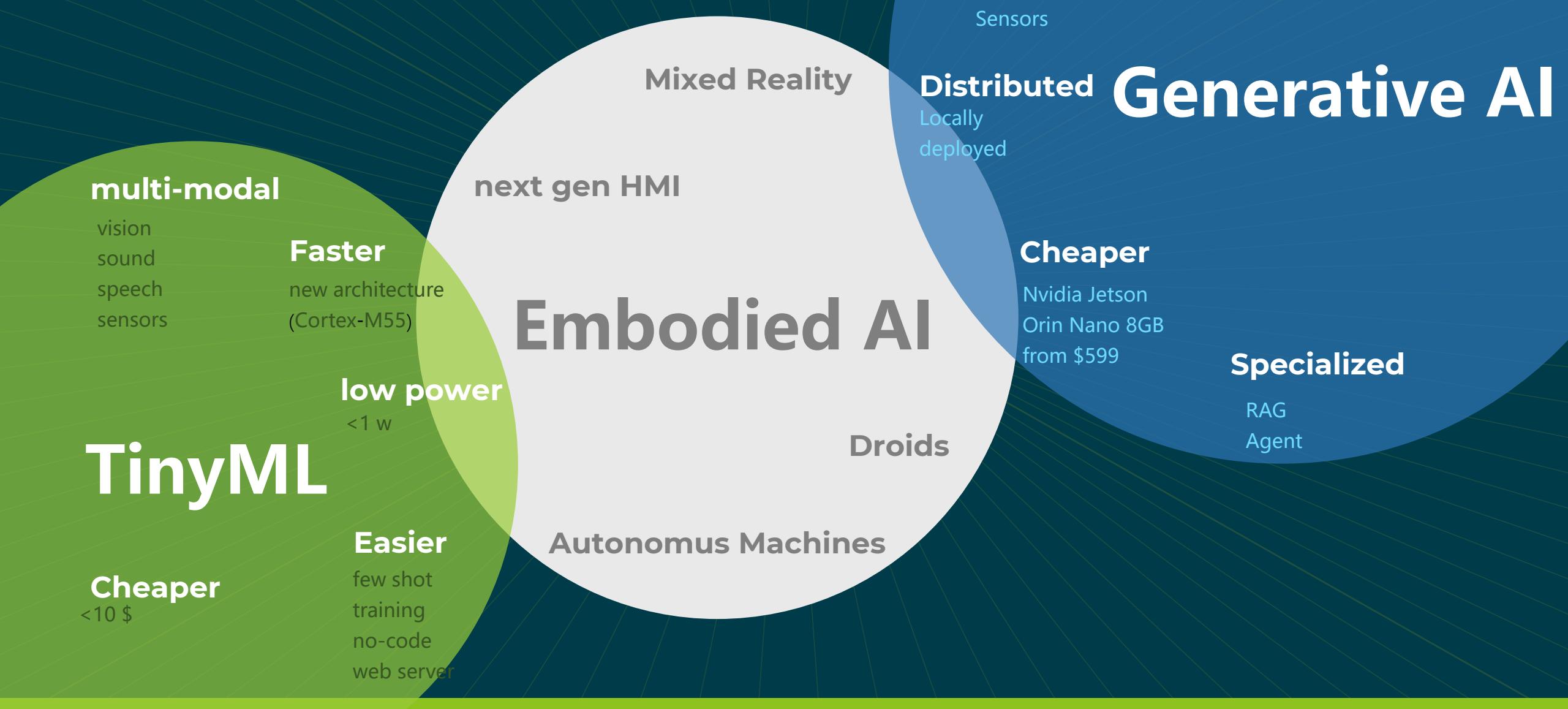


<https://www.jetson-ai-lab.com/>

Edge AI Selection Guide

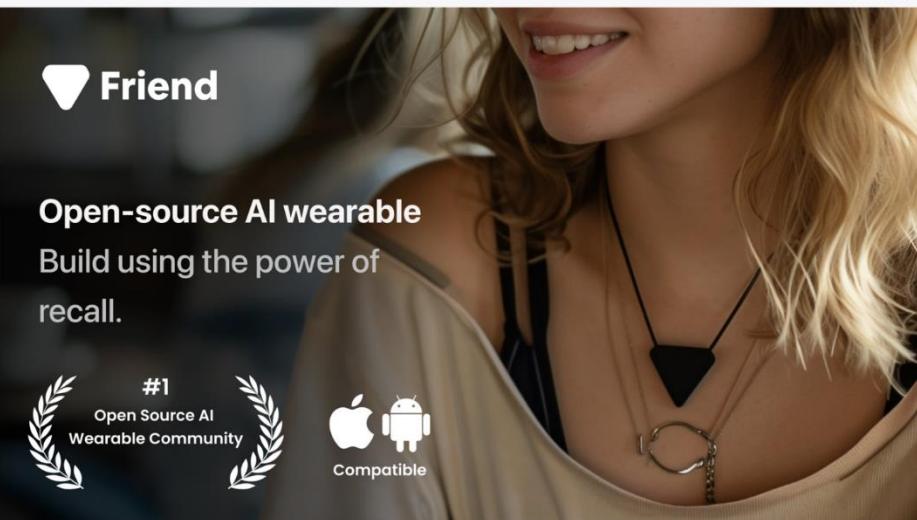


Convergence of TinyML and Generative AI



AI hardware now open source

Friend: Open Source AI Wearable Recording Device



Friend

Open-source AI wearable

Build using the power of recall.



Wear It, Record Your Conversations, Get Helpful Summaries and Advice. Customize the AI wearable for any use case you want

[Visit website](#)

發起人:
Nik Shevchenko

有712名支持者認繳了\$ 49,868, 幫助此專案變為現實。

上次更新 [五月 27 2024](#)

New ‘Friend’ ChatGPT Appliance Records, Transcribes And Summarizes Conversations

John Koetsier Senior Contributor ⓘ
Journalist, analyst, author, and speaker.

[Follow](#)

Jun 24, 2024, 12:03pm EDT

0

Updated Jun 27, 2024, 02:06pm EDT

f
 X
 in



Physical AI agent for smarter facility and machines

Self-learning

Your agent to watch what you care

Activity Occupancy Condition

Comprehensive Sensors

Vision Sound

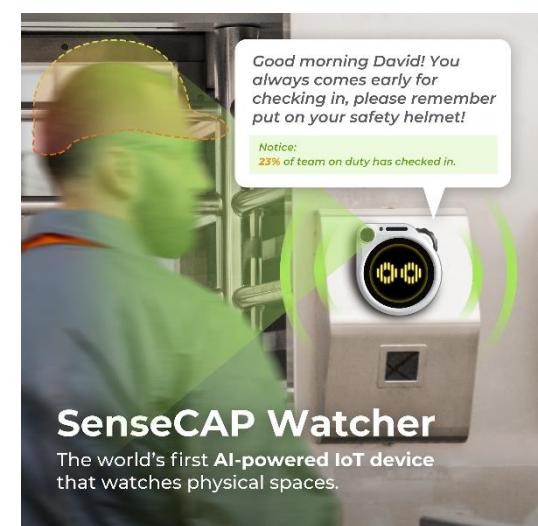
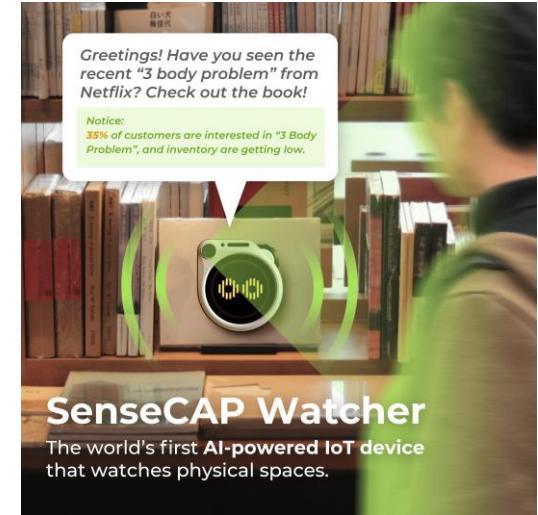
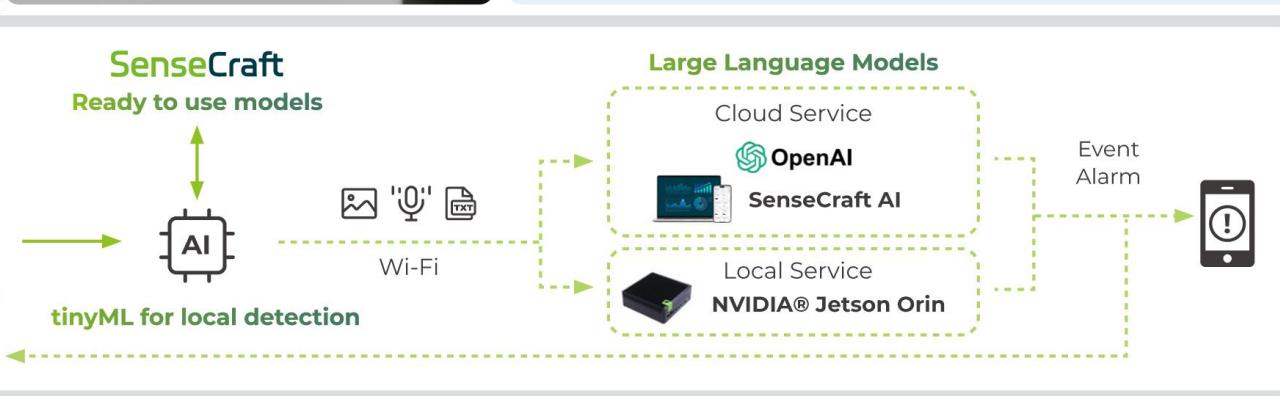
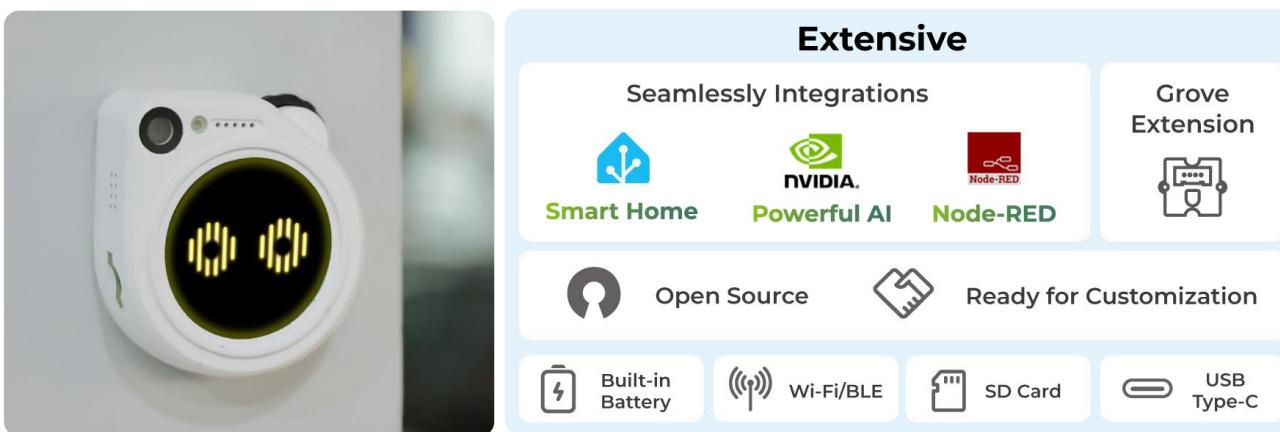
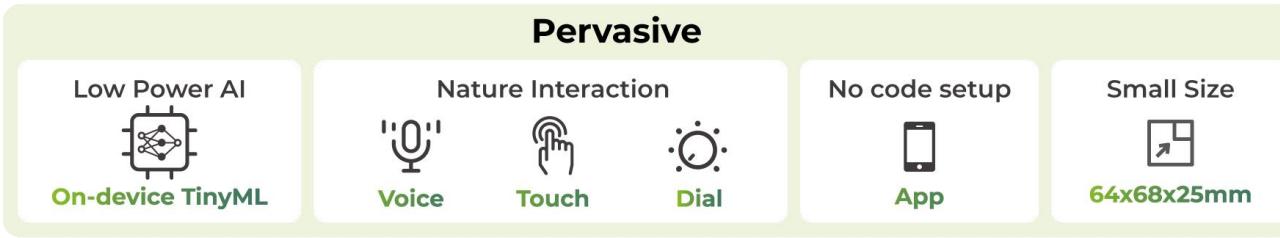
Self Learning and evolving

Capture Train Deploy

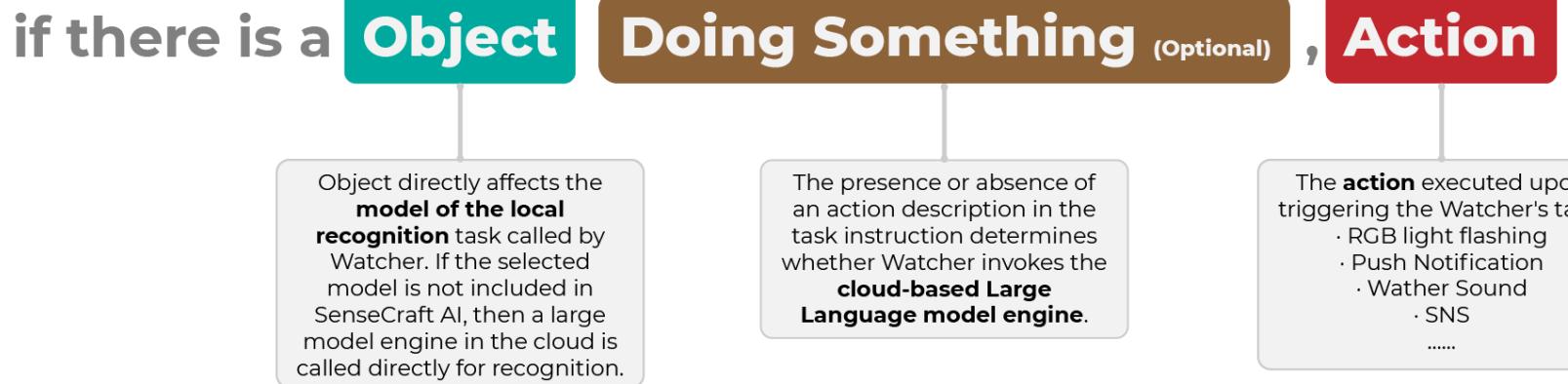
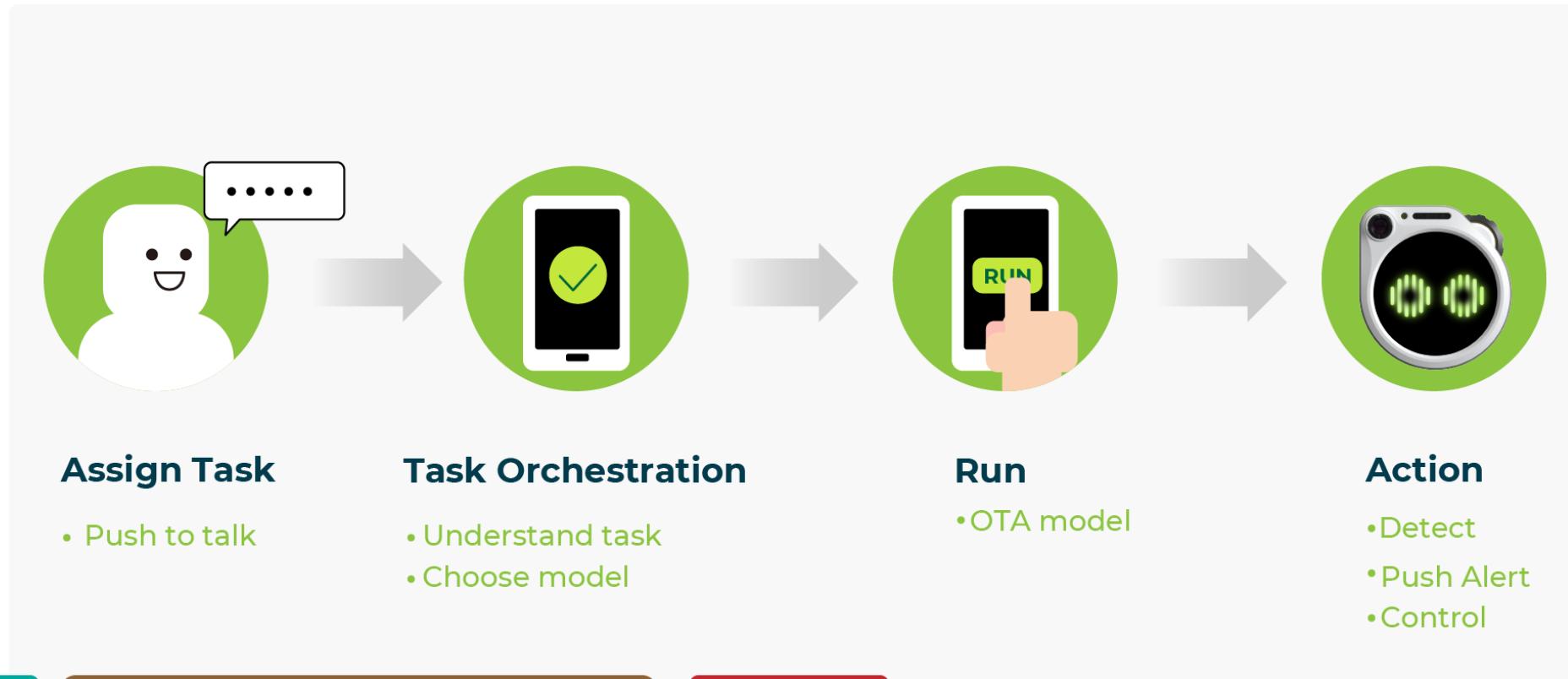
Local and public LLM

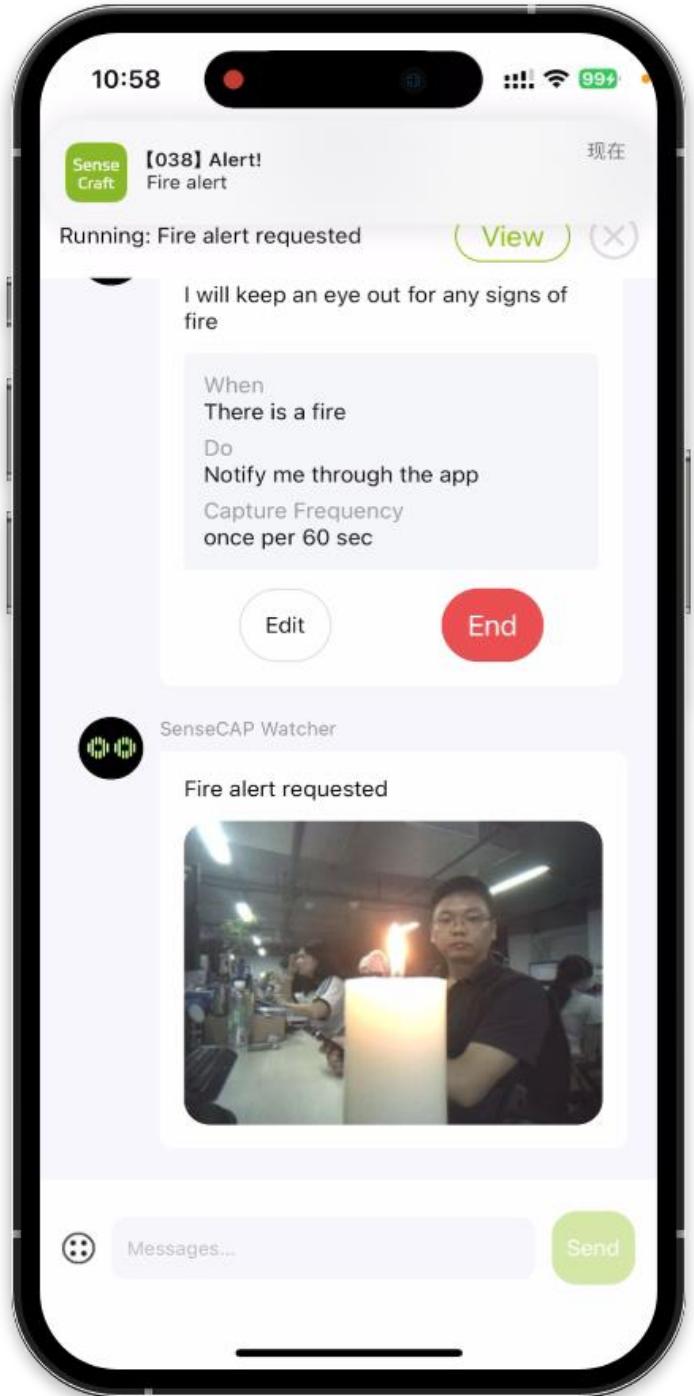
Omnipotent

Image Voice Sensor data



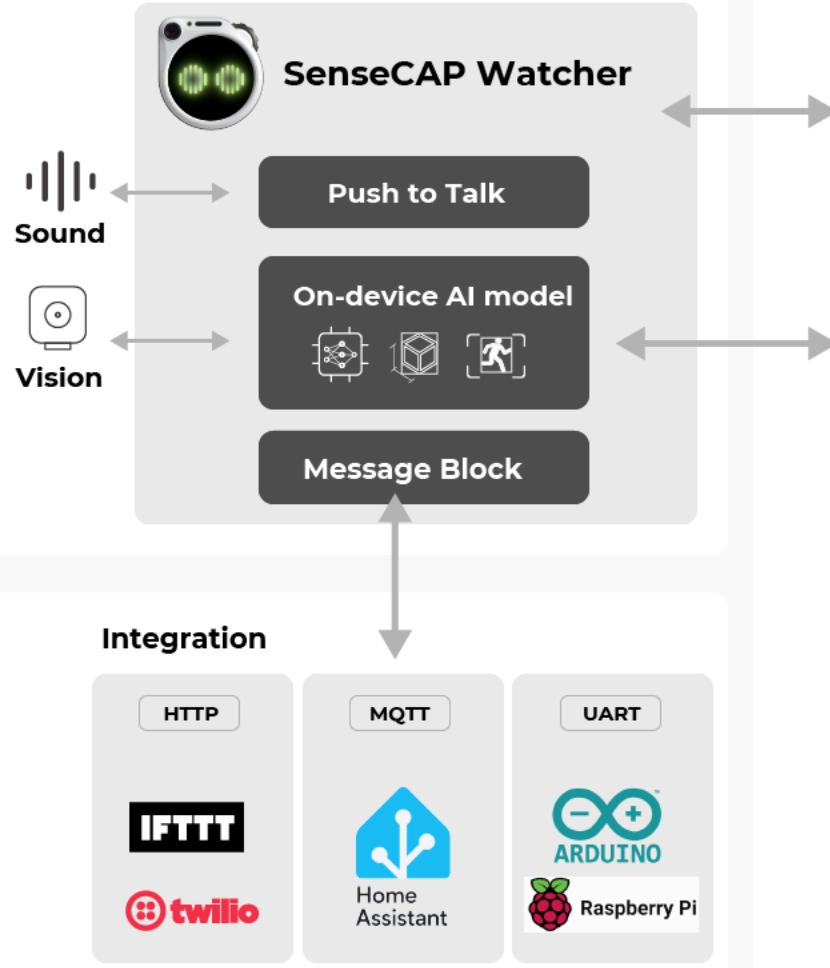
SenseCAP Watcher Workflow



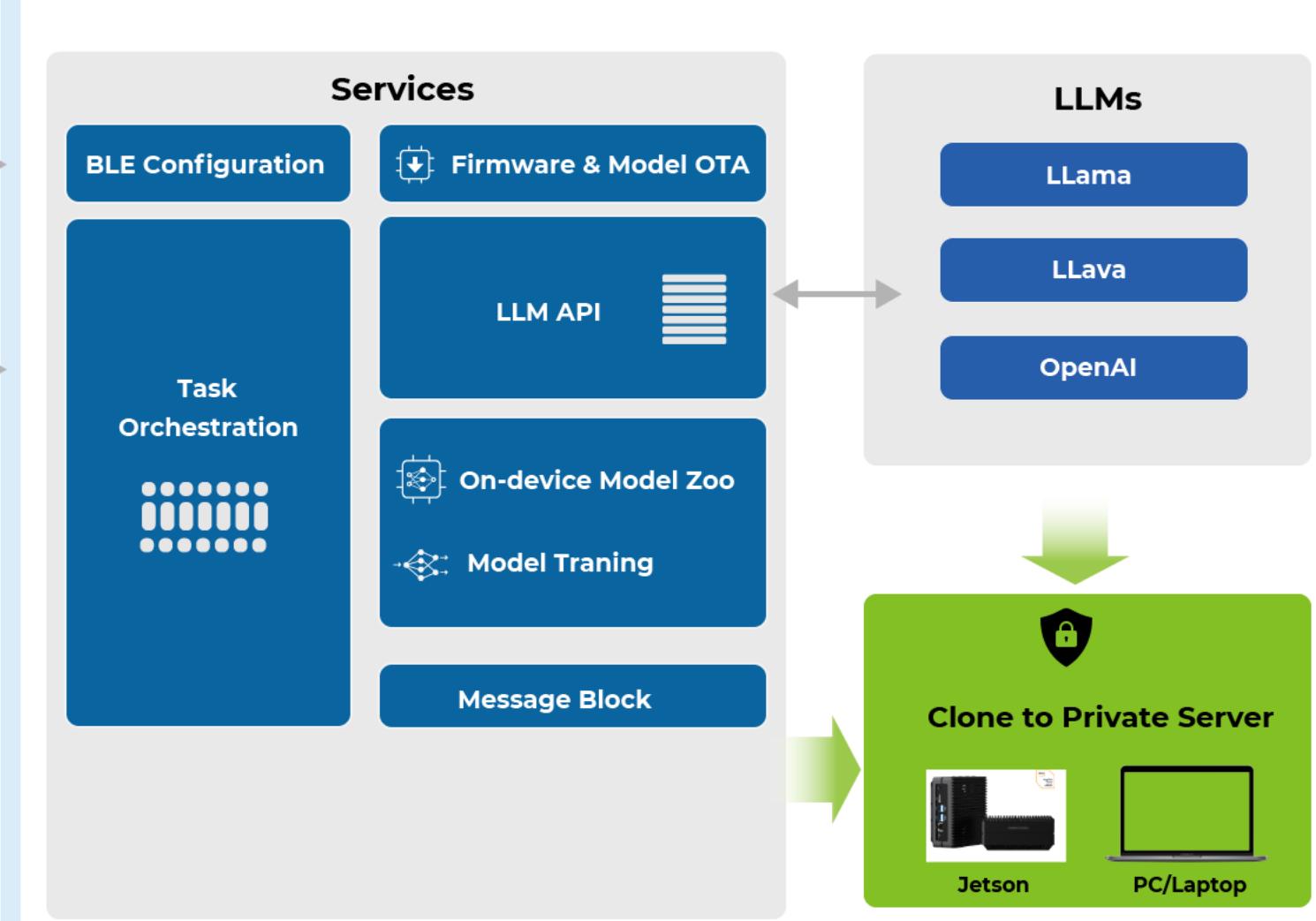


Infrastructure

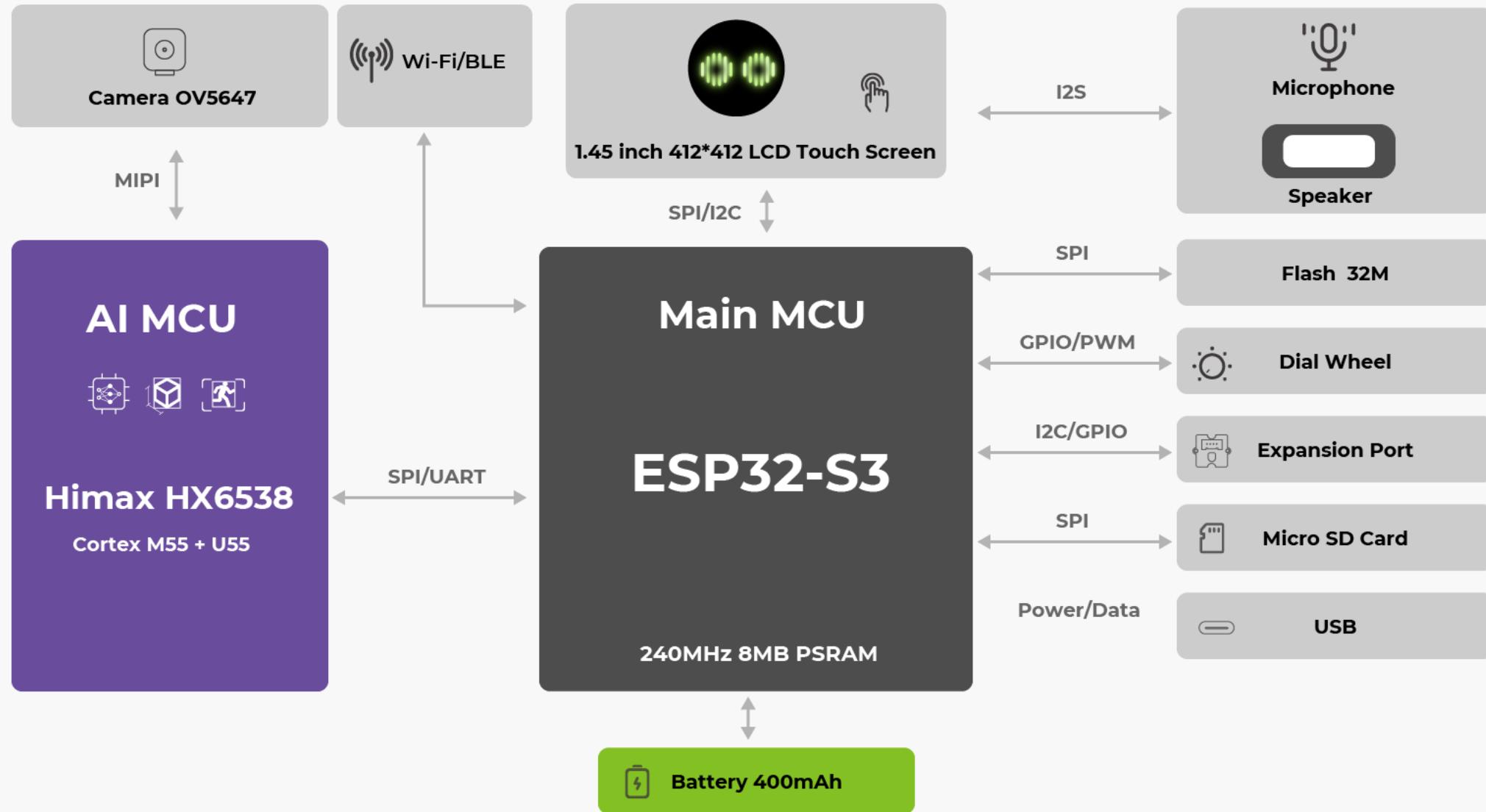
Device



SenseCraft



Hardware Diagram





Launching soon

SenseCAP Watcher - The Physical AI Agent for Smarter Spaces

See+Hear, Comprehend, and React | On-Device AI | ChatGPT / LLM | Voice Interaction | Animation | Private Deployment | MQTT | + Sensors

Seeed
4 created • 1 backed

Project We Love Santa Clara, CA Hardware

Notify me on launch

245 followers

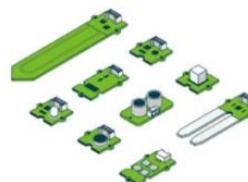
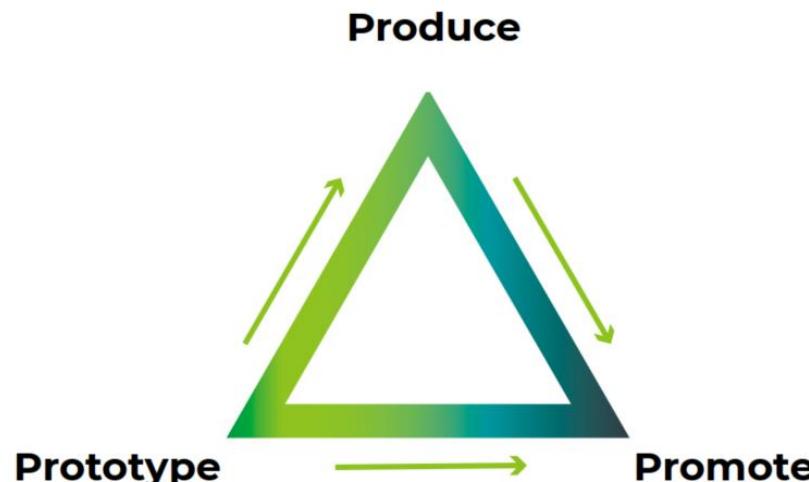
<https://www.kickstarter.com/projects/seeed/sensecap-watcher-open-source-ai-assistant-for-smarter-spaces>

Co-CREATE with Seeed Fusion

Fast Track from Idea to Market

Seeed Fusion Service offers one-stop services catering to your needs, from **design & customization** to **production** and **promotion**. Focus on your strengths, co-create and co-grow with Seeed Fusion!

Open Source • AI • Hardware



Prototype - Design and Customization for Diverse Needs

- Full spectrum services - from light to deep customization.
- Open reference design - lower threshold for rapid prototyping.
- Professional expertise - proven product design experience.



Produce - From Small-batch to Mass Production

- Instant online quotation & lead time for PCB & PCBA.
- Professional experts - guaranteed services for scale-up.
- Designated engineers & professional project management.



Promote - Rich Resources for Marketing and Promotion

- Online store serving half a million direct customers worldwide.
- 200+ global and local distributors via online/ offline channels.
- Dedicated resources to create contents with active communities.

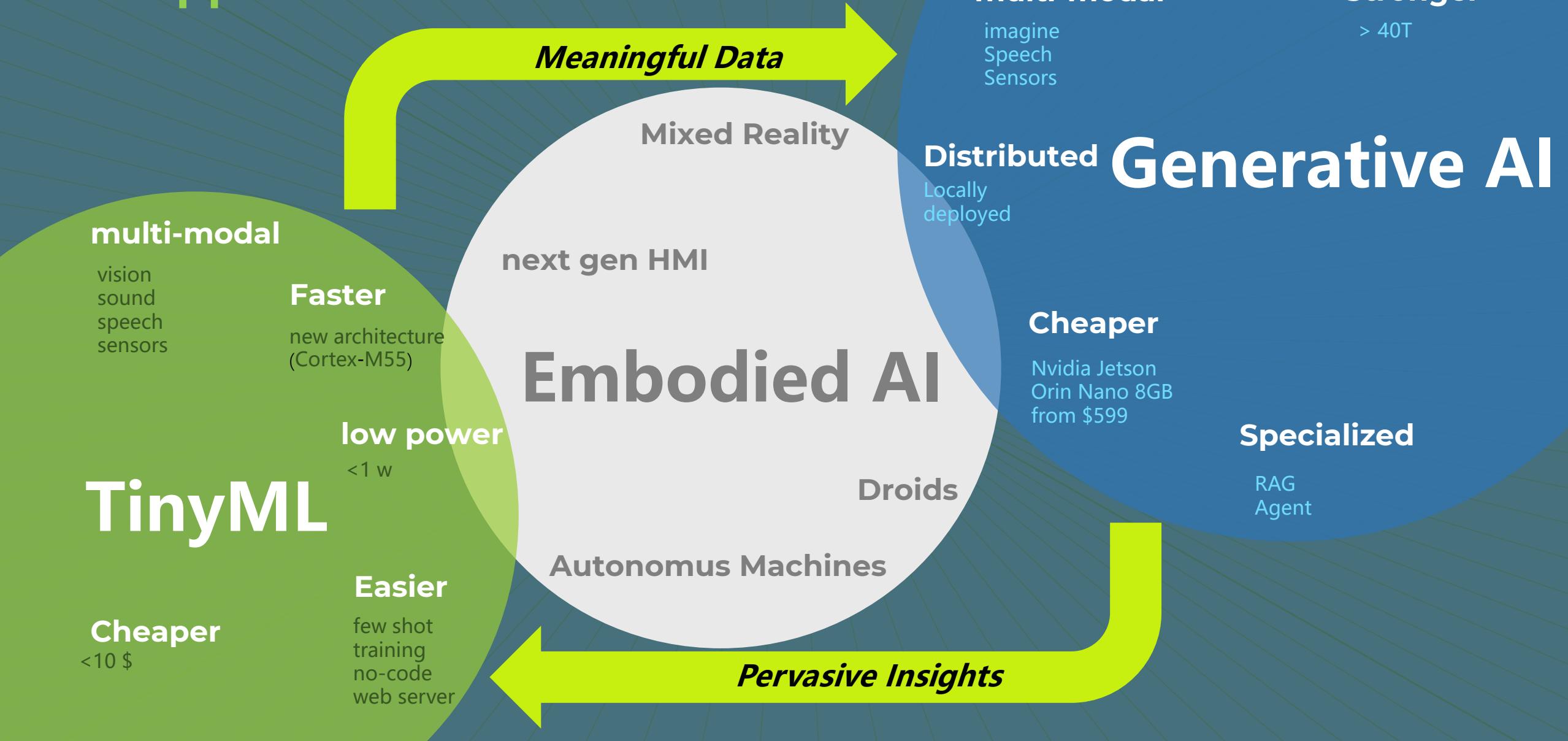
Embodied AI as a bridge between science and application

Co-Invent Solutions



Based on various digital transformation scenarios, we continue to develop smart devices that integrate the latest technologies, and work closely with developers and industry experts to provide software and hardware solutions for vertical industries at multiple levels.

Embodied AI as a bridge between science and application



Academic Support

Welcome to Seeed Studio's Academic Support hub, where we empower educational institutions with high-quality learning resources, maker camps, innovative technologies, co-create services and career opportunities.

With the mission of "**Making Technology Accessible for All**", we are dedicated to fostering a learning environment that inspires creativity and innovation, ensuring that both educators and students have the tools they need to succeed in the ever-evolving tech landscape.



Learning
Resources



Teaching
Support



Research and
Competitions



Maker Camps



Career

ENCHANT EVERYTHING WITH AI

万物皆可AI

大湾区国际创客峰会

Maker Faire® Shenzhen



Exhibition
创新应用展



Forums
高峰论坛



Workshops
创新工作坊



Highlights
亮点项目



Exhibition application



Maker Faire Shenzhen

2024 Nov. 16~17
Add: Vanke Design Commune, Nanshan District, Shenzhen



seeed studio

The AI Hardware Partner



Let's talk!

ep@seeed.cc



LinkedIn
@Seeed Studio



Twitter
@seeedstudio



Discord
discord.seeed.cc



YouTube
@Seeed Studio



Project Hub
hackster.io/seeed