seeed studio

The AI Hardware Partner

2024 Product Catalog

www.seeedstudio.com

V1.0c

About Us

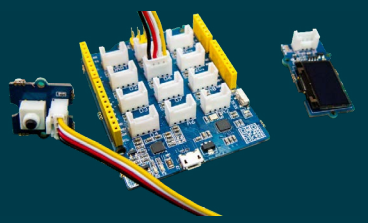
the AI hardware partner

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 availalbe 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.



How it started 2008

From possibilities to productivities

How it's going 2024

From Technology to Industry

Technologies

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

Applications

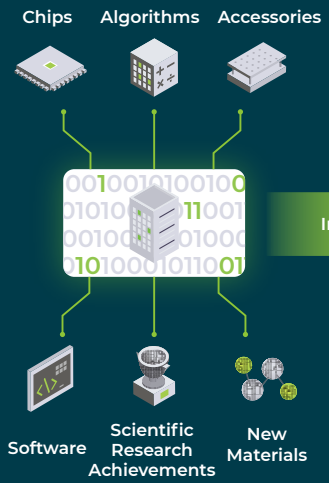
- Asset Tracking
- Smart Building
- Industrial space
- Smart City
- Smart Agriculture
- Smart Energy
- Tech for good
- Open Science

Global Developer Communities

open source hardware

Collaborative Innovation

Emerging Technologies



Integration

Sensor Network

tinyML Ready
Rich Sensor Portfolio
Diverse Connectivity

Edge Computing

IPCs, HMIs, Edge Controllers
From Basic to High-End Performance
Cutting-Edge AI APP integration

SenseCraft — AI Model / dAPP Distribution, Device Config + Data Management

Services — Design & Manufacturing & Co-Create

Solution

Digital Economy

Traditional Industries

Digital Infrastructure
Smart Agriculture
Smart Environment
Smart Energy

Featured Product Lines

Arduino | Beaglebone | Home Assistant | NVIDIA® Jetson | Raspberry Pi | SenseCAP | TinyML

Sensor Network

Nerve Endings of Our Digital World

Transitioning from the physical to the digital world, and from modules to devices, efficiently collecting real-world data significantly boosts traditional industries in their digital transformation. With the proliferation of AI technology, smarter sensors can supply large language models (LLMs) with more authentic data from the physical world. Fortified with AI capabilities, these sensors, along with gateways offering wide network coverage, are compact yet robust, suitable for both indoor and outdoor applications. Seeed's solutions excel in their rapid deployment capabilities within the real-world AIoT sector, including Asset Tracking, Smart Building, Smart City, and Agriculture.

Sensor Network

Seeed provides customers with smart sensing and network coverage capabilities, and the ability to efficiently complete the collection and transmission of physical world data through ready-to-use devices and easy-to-develop open source hardware modules.

Devices

AI Sensors

Smarter sensors, to see, to hear, to understand

AI Vision

LoRaWAN Devices

Low power, long range, low connectivity cost

LoRaWAN Sensors

Gateways

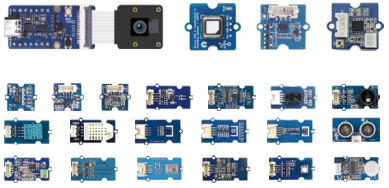
Weather Sensors

All-in-one with multi parameter, easy to integrate

Modules

Sensor and peripheral modules

Grove Open Source Plug and Play Modules



Vision, environmental sensors, actuators and rich kits with tutorials

XIAO tinyML MCUs

Arduino, ESP32, tinyML, diverse connectivity

Wio LoRa Modules

Low-cost LoRa modules for sensor and gateway

AI Sensors

Seeed Studio's AI Sensor series collaborate IOT, Edge Computing and LLM together. By analysing data from vision, sound, and environment sensors through wireless sensor connectivity, it can be naturally fitted into indoor and ourdoor scenarios to help users to improve their management of the space in an revolutionary way.

Application

SenseCAP Watcher

NEW AI-Native

A physical AI agent for smarter space

Equipped with a local tinyML module and connected to a native Large Language Models (LLMs) to ensure privacy, SenseCAP Watcher features a camera, voice detection to achieve an effortless oversight of your business operations, it learns from your commands and performs tasks accordingly, operating 24/7. Experience the new transformation towards a more responsive and smarter space.

Self-learning

Your agent to watch what you care

Activity · Occupany · Condition

Comprehensive Sensors

Vision · Sound

Self Learning and evolving

Capture · Train · Deploy

Local and public LLM

LLM Omnipotent

Pervasive

Low Power AI

On-device TinyML

Nature Interaction

Voice · Touch · Dial

No code setup

App

Small Size

64x68x25mm

Extensive

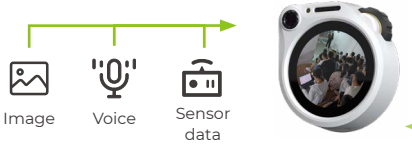
Seamlessly Integrations

Smart Home · Powerful AI · Node-RED

Grove Extension

Open Source · Ready for Customization

Built-in Battery · Wi-Fi/BLE · SD Card · USB Type-C



SenseCAP Watcher Applications

Kiosk Advertiser

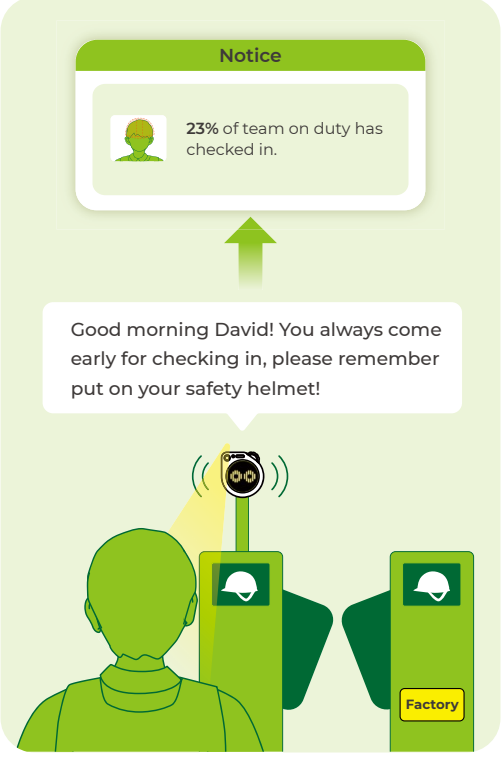
SenseCAP Watcher can function as an AI Kiosk Advertiser in unmanned vending areas, enthusiastically greeting customers and suggesting products to them.

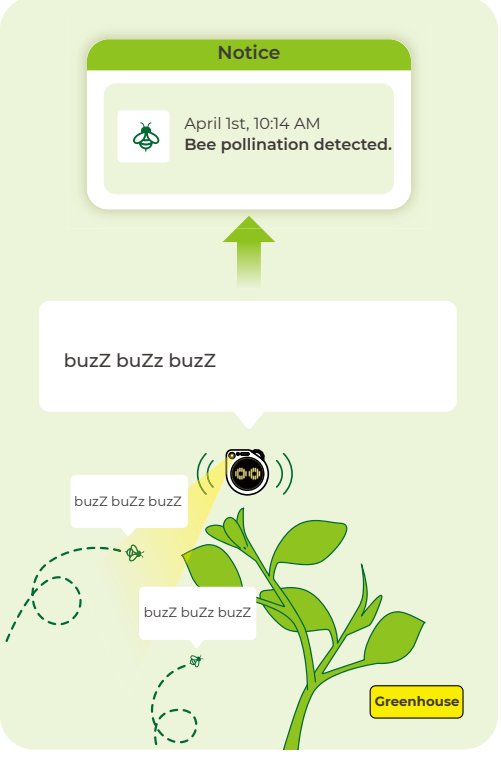
Robo Doorman

SenseCAP Watcher could function as a Robo Doorman for work areas or other entrances. The Watcher can greet people and check whether personnel are wearing their ID badges or safety helmets.

AI Gardener

SenseCAP Watcher could serve as an AI Gardener on farms, capable of detecting bee pollination and reporting the activity logs of bees and other insects.





SenseCAP A1102 - LoRaWAN® Vision AI Sensor

NEW Low-Power AI-Native

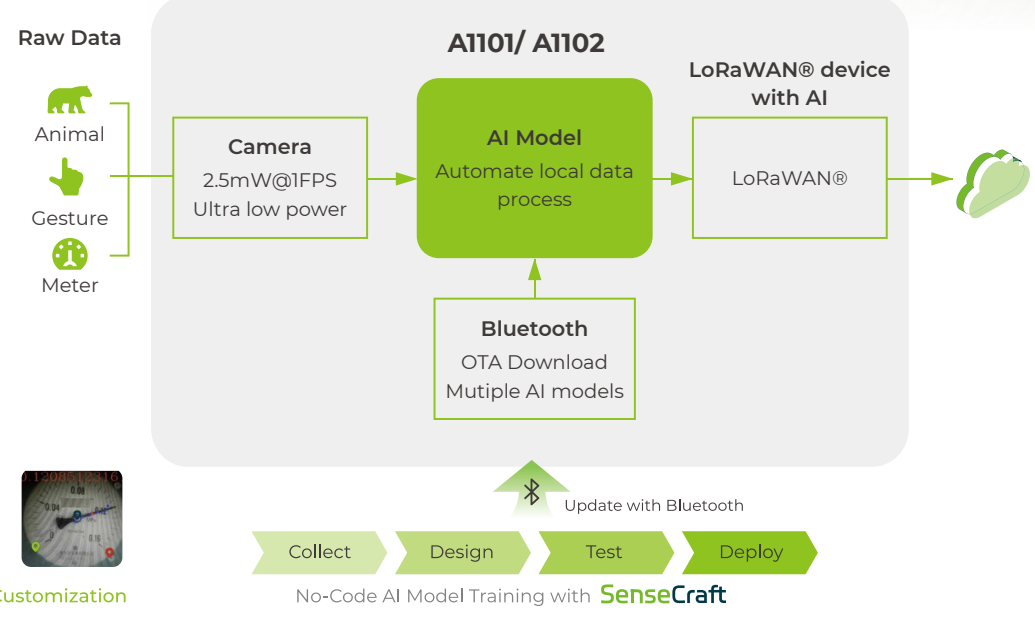
Long-Range, Battery-Driven AI Camera for Efficient Off-Site Surveillance

The SenseCAP A1102 - LoRaWAN® Vision AI Sensor is an Edge AI-enabled smart vision sensor offering diverse AI model functionalities such as image recognition, people counting, target detection, and meter recognition, with TensorFlow Lite support for model training. It facilitates no-code model training and deployment through SenseCraft AI, features extra night vision, LED flashing light, and IR trigger, and uploads inference results data via LoRaWAN® with very low data bandwidth, boasting battery-powered operation lasting over a year.

A1101 A1102

Features

- Low-power comsuption
  Down to 2.3uWh in deep sleep mode, battery life last over a year.
- Long Range
  Leverage the Wio-E5 LoRaWAN module, up to 10km eye-sight commnunication distance.
- Built-in powerful AI Camera
  Built-in tVOC and CO2 sensors, and an external Grove AHT20 temperature and humidity sensor as add-ons.
- Local LoRa® Hub for IoT Connectivity
  Powered by Himax HX6538, Cortex-M55, Ethos-U55, running rich local vision models.



Ues Case

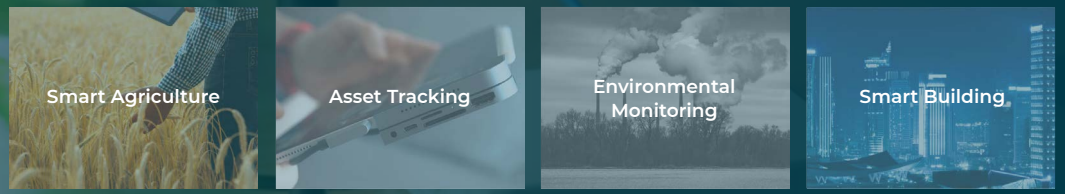
- Person Detection
- Specific Object Detection
- Automatic Meter Reading

Open for Customization

SenseCAP AIoT Products

Seeed offers wireless LoRaWAN sensors, trackers, data loggers, indicator, gateways, and cloud services. Through wireless sensor connectivity, SenseCAP offers the physical world's accurate environmental measurements to the users, along with its robust industrial-grade design, ready-to-use PaaS platform, Apps, and open API services.

Application



SenseCAP T1000 Low-Power

A Card-Size Tracker for LoRaWAN®, Helium, and Amazon Sidewalk

SKU 114993073, 114993106

SenseCAP T1000 is a compact GPS tracker that utilizes GNSS/Wi-Fi/Bluetooth for precise indoor & outdoor location tracking, compatible with LoRaWAN®, Amazon Sidewalk, and Helium Networks. It boasts self-geo-adaptive capabilities, local data storage, and an impressive battery life of months. Additionally, it is equipped with temperature, light, and motion sensors, making it ideal for a variety of location-based applications, asset tracking, logistics tracking, and search and rescue.

Model	Compatible Networks	Temperature	Light	Accelermeter
T1000-A	LoRaWAN® Helium	●	●	●
T1000-B	LoRaWAN® Helium	/	/	/
T1000-C	Amazon Sidewalk	●	●	●

Applications

SenseCAP Indicator

5+ Years Supply

An ESP32 LoRaWAN® Terminal with Touchscreen and Sensors

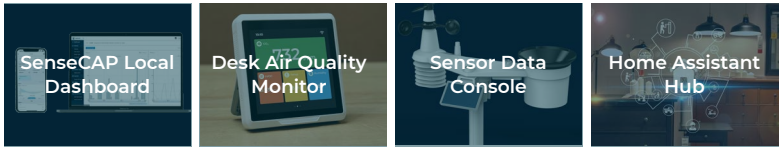
SKU 114993070, 114993071, 114993068, 114993069

SenseCAP Indicator is a 4-inch touch screen driven by ESP32-S3 and RP2040 dual-MCU and supports Wi-Fi/BLE/LoRa® communication.It comes with 2 Type-C USB ports and Grove interfaces, supports ADC and IIC transmission protocols, and can easily connect to other peripherals with rich GPIOs.

Features

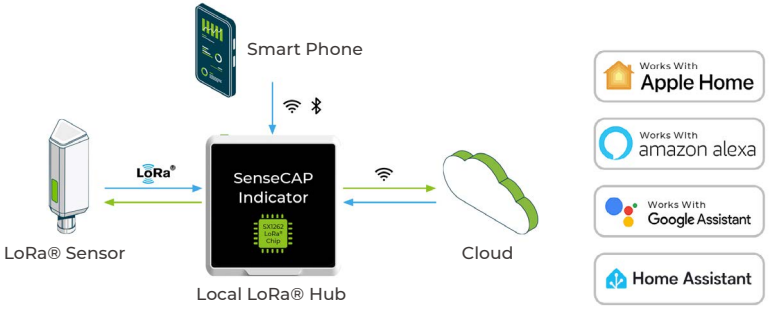
- Dual MCUs and Rich GPIOs
  Equipped with powerful ESP32-S3 and RP2040 dual MCUs and Grove-compatible GPIOs for flexible expansion.
- 4-Inch Touch Screen
  A capactive RGB touch screen with 480x480 pixels for data visualization and HMI.
- Real-time Air Quality Monitoring
  Built-in tVOC and CO2 sensors, and an external Grove AHT20 temperature and humidity sensor as add-ons.
- Local LoRa® Hub for IoT Connectivity
  Integrated Semtech SX1262 LoRa® chip (optional) for connecting LoRa® P2P and LoRaWAN®.
- Fully Open Source Platform
  Leverage the extensive ESP32 and Raspberry Pi open-source ecosystem for infinite application possibilities.

Applications



Scenarios under Spot Light

Use SenseCAP indicator as a LoRa® hub device to connect your LoRa® sensors to your smart home ecosystem

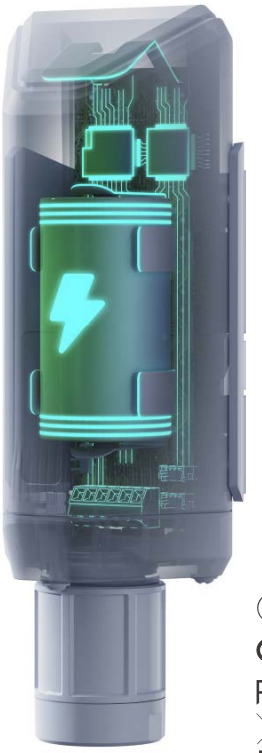


Model	D1	D1S	D1L	D1Pro
tVOC sensor	/	●	/	●
CO2 sensor	/	●	/	●
Grove TH sensor	/	●	/	●
LoRa(SX1262)	/	/	●	●
Wi-Fi	●	●	●	●
Bluetooth	●	●	●	●

SenseCAP S210x LoRaWAN® Sensors

Industrial-Grade *Rugged* *Low-Power*

SenseCAP S210x series' sensors offer long-distance data acquisition via LoRaWAN®. With IP66 enclosure rating, the sensors can operate in extremely low and high temperature zones (-40°C to +85°C). Their built-in, 19AH high capacity battery, S210x series can operate in harsh, outdoor environments up to 10 years with a range of up to 10km. To add, the built-in Bluetooth made them easy to be configured and deployed, that together reduces field deployment costs. Moreover, users can get data in just a few steps, and with open Cloud API, they are easy to be integrated.



Features

- **High accuracy sensor**
  Fast response and superior stability.
- **Quick configuration**
  User-friendly set-up with built-in Bluetooth.
- **Ultra-low power consumption**
  Battery life of up to 10 years withbuilt-in 19Ah battery.
- **Easy deployment**
  Easy to mount via brackets.
- **Industrial design**
  -40 ~ 85℃ operating temperature and IP66 rating.
- **Efficient integration**
  SenseCAP cloud services with Open API support further development.
- **Weather resistant**
  Suitable for indoor, outdoor and harsh environments such as high UV exposure, heavy rain, dusty conditions etc.
- **Multi-platform**
  Compatible with multiple NS (Helium, TTN) and IoT platforms.

Designed for Mass Deployment

1. Onboard it with only 3 steps.
2. Update settings across fleets in 1 click.

Product Model	 S2101/S2103	 S2102	 S2104/S2105	 S2106	 S2107	 S2108
Product Name	Air Temperature & Humidity Sensor (and CO2)	Light Intensity Sensor	Soil Temperature and Moisture Sensor (and EC Sensor)	pH Sensor	PT100 Temperature Sensor	Soil Moisture, Temperature and Pore EC Sensor
SKU	114992867/ 114992869	114992868	114992870/ 114992871	101070001	114993078	101070021

SenseCAP S2100 LoRaWAN® DTU

Industrial-Grade *Low-Power* *Rugged*

A battery-powered IP66 wireless data logger/ DTU supports RS485/Analog/GPIO sensors

SKU 114992872

SenseCAP S2100 LoRaWAN® DTU can connect to Modbus-RTU RS485/Analog Input/GPIO sensors and transmit data from sensors to the LoRaWAN® network. It is specifically optimized for OTA with built- in Bluetooth, which enables quick setup and update. It can be battery-powered or connected to a 12V external power supply. With the help of S2110 sensor builder, S2100 Data Logger is able to connect to Seeed Studio's wide range of Grove Sensors, which will make it the ideal solution for developing, fast prototyping, and small deployment for DIY Industrial level LoRaWAN® Sensors.

Physical World

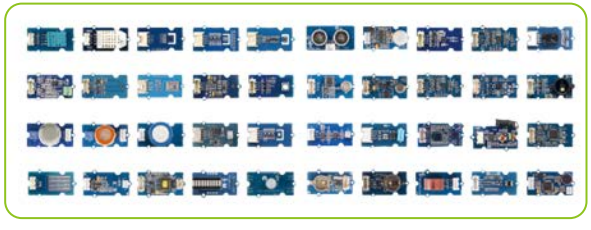
Agriculture

Industrial Control

Energy

Expanding to 400+ Grove Sensors

S2110 Sensor Builder



Increased to 100+ Industrial Sensor Probes

Water

Air

More...

Industrial Sensor Probes

Rugged

Compatible with SenseCAP S2100 LoRaWAN® DTU and SenseCAP 4G Sensor Hub

Soil Temperature , Moisture and EC Sensor

SKU 101990667

Soil Temperature and Moisture Sensor

SKU 101990668

Solar Radiation Shield for Outdoor Sensor Protection

SKU 114992222

pH Sensor

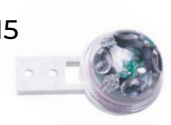
SKU 101990666

EC and TDS Sensor

SKU 314990634

Optical Rain Gauge RG-15 Rain Sensor

SKU 114992321



Light Intensity Sensor

SKU 314990739

PAR Sensor

SKU 314990733

Ultrasonic Level Sensor

SKU 101991041

NH3/H2S/CO2 Sensor

SKU 101990862

Air Temperature and Humidity Sensor

SKU 101990881

Water Leak Detector

SKU 314990618

Ultrasonic Level Sensor

SKU 101991042

Liquid Level Sensor

SKU 314990619

Industrial Total Solar / UV Radiation Sensor

SKU 101991047, 101991048

Leaf Temperature and Humidity Sensor

SKU 314990737

And More...

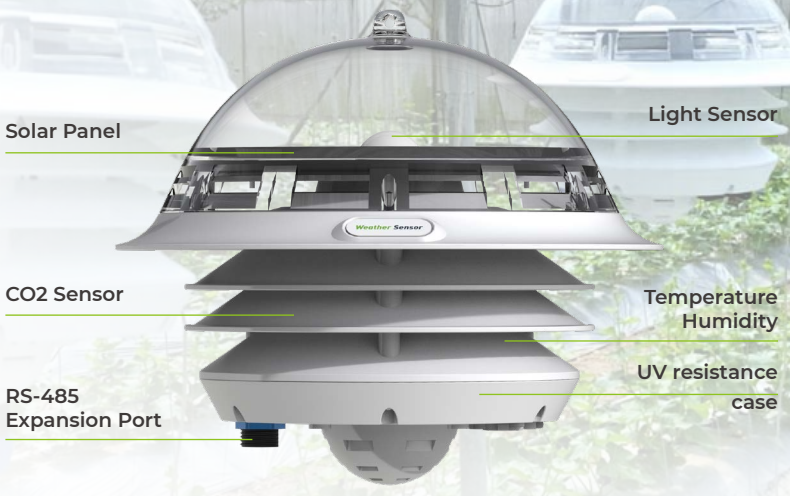
SenseCAP Outdoor Combo

NEW

Low-Power Rugged

A highly integrated autonomous environment sensor

SenseCAP Outdoor Combo is an compact, easy-to-use environment sensor. The device supports multiple measurement elements such as temperature, humidity, dew point, light, carbon dioxide, and supports the extension of up to 10 Modbus-RTU RS485 sensors, allowing it to connect with most types of sensors available on the market. The device uploads the collected data to a designated server via 4G using the MQTT protocol. Equipped with a solar panel and a large-capacity rechargeable lithium battery, it ensures the device can work for up to two weeks in rainy weather or during power outages, while also supporting continuous power supply. The device supports hanging or pole mounting, and allows none-tech users to quickly install and deploy. The device is designed to be waterproof, meets UV aging resistance standards, and supports use in harsh environments such as greenhouses.



Features

- **Compact Body**

  Compact integrated body, containing various sensors and 4G communication.

- **Accurate**

  Sensors accurately measure environmental elements.

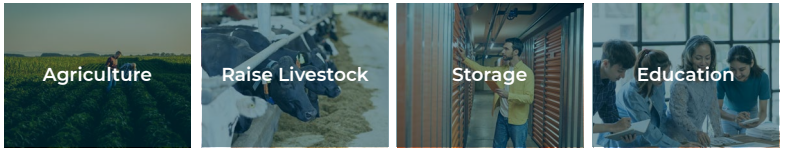
- **Easy to deploy**

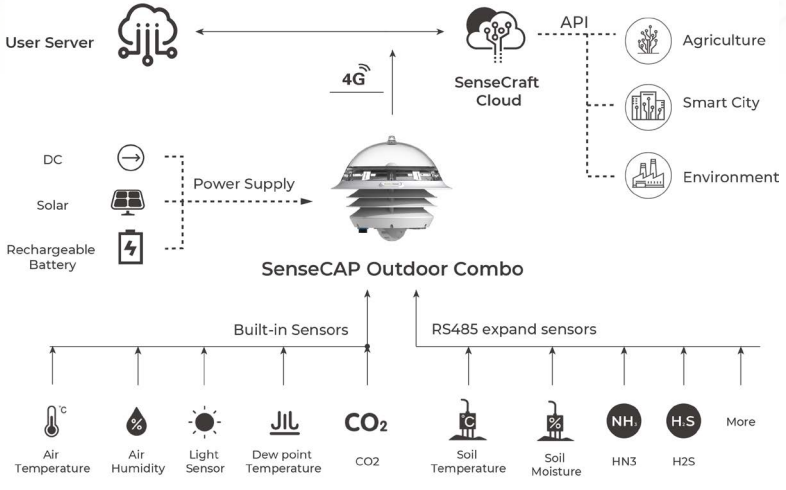
  Ready to use out-of-box, with multiple installation methods.

- **Long Battery Life**

  Solar power, battery, and direct current supply options enable long-time operation even in rainy weather.

Applications





SenseCAP Outdoor LoRaWAN® Gateway

Industrial-Grade

SKU 102991155

SenseCAP Outdoor Gateway is a robust data collection device designed for large-scale networks. It utilizes a telecom-operator-level LoRa chip and a powerful processor to ensure stable and efficient performance. It can seamlessly collect and transmit data to various platforms like SenseCAP, TTN, and Chirpstack via 4G or Ethernet connection. Encased in an IP66-rated protective enclosure, it is suitable for industrial settings and harsh outdoor environments.

Features

- Cortex A8 processor & Linux system: Stable and reliable.
- LTE and Ethernet backhaul, suitable for multiple scenes.
- Supports Packet Forwarder mode, built-in Chirpstack Server, and SenseCAP Portal.
- Easy to deploy with mounting accessories.
- Industrial-grade protection: IP66 enclosure, -40 to 70°C operating temperature.
- Certified by CE, FCC and RoHS.

SenseCAP M2 Multi-Platform LoRaWAN® Indoor Gateway

EU868 / US915 / AU915 / AS923 / IN865 / KR920 / RU864

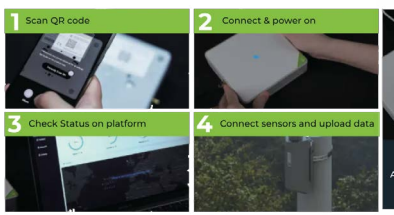
SKU 114992982

SenseCAP M2 Multi-Platform LoRaWAN® Gateway is a standard LoRaWAN® protocol gateway that supports connecting to different network servers. It is compatible with multiple LNS like AWS, TTN, ChirpStack and others via using the Packet Forwarder / Basics™ Station mode.

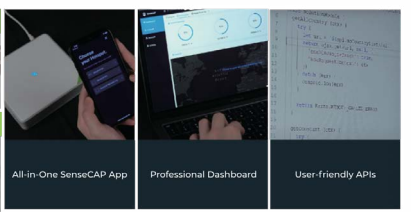
Features

- Power-over-Ethernet (PoE), Wi-Fi and 4G as back haul.
- CE, FCC, Verizon, RoHS, TELEC, KC, REACH certified.
- Designed for scalability and easy management.

Easy to Deploy



Easy to Monage



SenseCAP 4G Sensor Hub

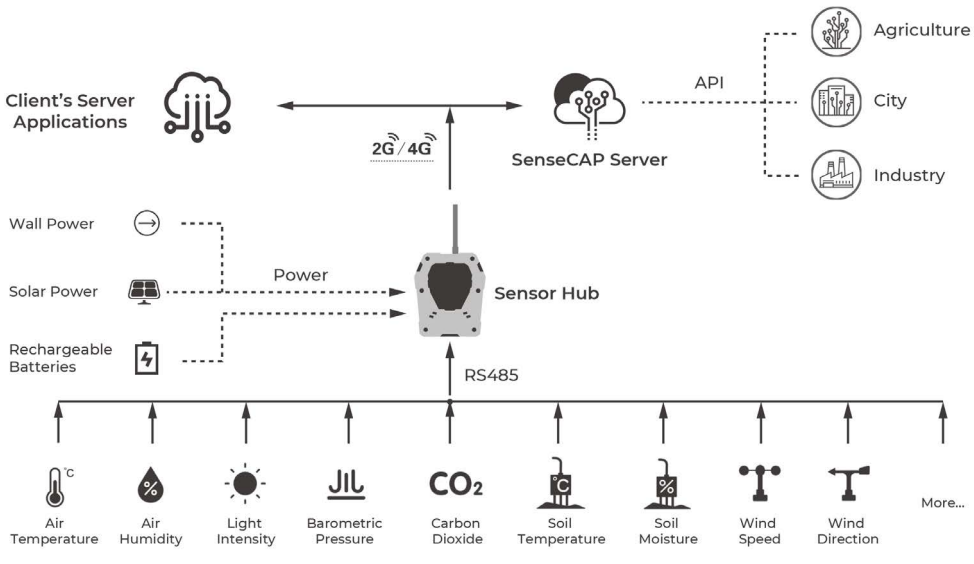
Rugged

SKU 114992170, 114992171

SenseCAP Sensor Hub is a powerful 4G data logger that can be connected to 32 RS-485 sensors. It is designed with industry standards, which makes it robust and stable. Being IP66 rated, waterproof and dustproof, it is highly suitable for long-term, remote environmental monitoring for outdoor application scenarios.

Features

- Simultaneously collects various environmental data via a RS-485 sensor probe.
- Local data storage.
- Uploads the collected data to SenseCAP or customer's server via MQTT.
- Supports 4G/3G/2G communication, supporting and global LTE frequency band.
- Built-in GPS, remote upgrades and maintenance.



SenseCAP ONE Weather Sensors

Compact all-in-one weather sensors measure multiple parameters

S200 S500 S700-B S700-A S700 S800 S1000 S2120

SenseCAP ONE Weather Sensors

Industrial-Grade *5+ Years Supply*

SenseCAP ONE is a series of industrial weather sensors, that can measure localized weather patterns. The SenseCAP ONE is equipped with precise and accurate sensors to measure air temperature, relative humidity, barometric pressure, light intensity, rainfall, PM2.5, PM10, wind speed, wind direction, CO2, radiation, etc. With an IP66 enclosure and a wide operating temperature range, it features strong robustness to withstand even the toughest outdoor environment. In order to measure wind speed and wind direction, the sensors use ultrasonic technology, instead of traditional mechanical 3-cup anemometers or vane anemometers, that reduces maintenance costs, and increases the operating life cycle.

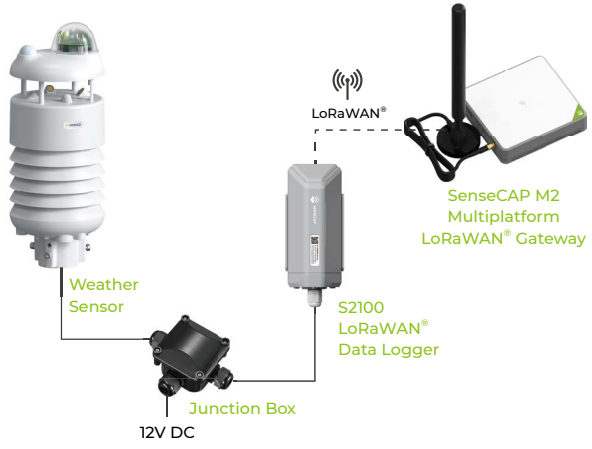
Features

- **High Wind Speed and Standard Gas Calibrated**
  Calibrated in wind tunnel up to 80m/s CO2 accuracy:1%of MV.
- **Industrial Grade Design**
  IP66,vorking on-40℃ ~85℃ ,RS485/SD-12 Integrated heaters; Embedded with electronic compass/magnetometer.
- **Accurate,Real-time Weather Information**
  Powerful sensor chip and algorithm embedded to improve accuracy and reliability.
- **Maintenance-free,Easy Installation**
  Compact,no moving parts, Long-term availability.
- **Customization Service**
  Support sensor customization White labeling.

Applications

Get the Weather Data via SenseCAP Data Logger

- Data transmit via LoRa Network



- Data transmit via Cellular(4G/3G/2G) Network

SenseCAP ONE Families

	SKU	Air Temperature	Humidity	Air Pressure	Light Intensity	Wind Speed	Wind Direction	Rainfall	PM2.5	PM10	CO_2	Noise	Radiation
S1000	101991024	●	●	●	●	●	●	●	●	●	●	/	/
S800	101991023	●	●	●	/	●	●	/	●	●	/	●	/
S700/ S700-A	101991022	●	●	●	●	●	●	●	/	/	/	/	/
S700-B	101991102	●	●	●	/	●	●	●	/	/	/	/	●
S500	101991021	●	●	●	/	●	●	/	/	/	/	/	/
S200	101991044	/	/	/	/	●	●	/	/	/	/	/	/

Specifications

	Range	Accuracy	Resolution
Air Temperature	-40~85°C	±0.1°C	0.01°C
Air Humidity	0~100%RH	±1.5%RH	0.01%RH
Barometric Pressure	300~1250hPa	±50Pa	10 Pa
Light Intensity	0~200,000Lux	±5% of reading	5Lux
Wind Speed	0~60m/s standard range; 0~75m/s extended range up to 80m/s withstand range	±0.3m/s(≤10m/s); ±3% (10m/s ~ 50m/s) ±5% (>50m/s)	0.1m/s
Wind Direction	0~360°	±3.0°	0.1°
Rain(Optical)	0~200mm/h	±10%	0.2mm/0.02mm
Rain(60G Radar,Only for S700-A)	0~300mm/h	±10%	0.01mm
PM2.5	0~1000μg/m³	±10%@100~1000μg/m³ ±10μg/m³ @0~100μg/m³	1μg/m³
PM10	0~1000μg/m³	±15% (100~1000μg/m³) ±15μg/m³ (0~100μg/m³)	1μg/m³
CO_2	400~10000 ppm	±(30+3% of reading)(400~5000ppm) ±10% of reading (5000~10000ppm)	1 ppm
Noise	35~100dB	±1.5dB	0.1dB
Radiation	0~2000W/m²	±5%	1W/m²

Power Supply	12V~24V (1W)
Heating Power Supply	24V(3W)
Supported Protocols	Modbus-RTU(RS485), SDI-12 protocol
IP Rating	IP66
Operating Temperature	-40~85°C
Operating Humidity	0~100%RH(non-condensing)

SenseCAP S2120 LoRaWAN® 8-in-1 Weather Station

Low-Power

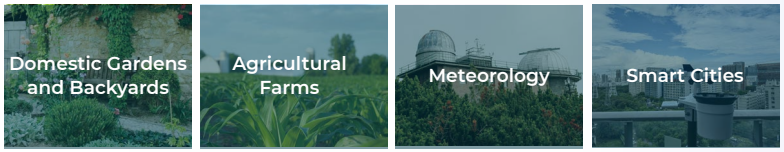
SKU 101990961

SenseCAP S2120 LoRaWAN® Weather Station provides you with hyperlocal weather dataat your fingertips. It supports multi-scenario applications like backyards, gardens, agriculture, meteorology, urban environmental monitoring, and so on. It enables low maintenance costs, thanks to its ultra-low power consumption, reliable performance, built-in Bluetooth for OTA configuration, and remote device management.

Features

- 8-in-1 Weather Station
  Collects air temperature, humidity, wind speed/direction, rainfall, light intensity, UV index, and barometric pressure data.
- Bluetooth Configuration and Remote Management
  Simple configurations to check out the latest and historical data.
- Ultra-Low Power Consumption, Easily Replaceable Battery & Expandable Capacity
  Powered by a 0.5W solar panel and 3 standard 1.5V AA -sized dry batteries that can lasts up to 2 years of service life, while an external battery compartment can accommodate 6 batteries at maximum to double the service life.
- Reliable Performance
  Suitable for outdoor harsh environments outdoors such as a high level of UV exposure, heavy rain, dusty conditions, etc.
- One-Stop Deployment & Flexible Layout
  Accessories include poles, mounting stand, among other things, for quick installation to be set up at almost any locations.

Applications



Advanced Wind Tunnel Laboratory

The wind tunnel is an essential facility for testing, calibrating, and verifying the quality and performance of wind sensors. To ensure that SenseCAP weather sensors meet industry standards, we have built an in-house wind tunnel laboratory equipped with advanced auto-calibration instruments that allow wind direction control with 360°, a minimum speed of 0.1 m/s, and a maximum speed of 80 m/s.

By subjecting the weather sensors to Seeed Studio's wind tunnel, which generates high-speed airflow and simulates different levels of natural wind speeds, we calibrate and validate each weather sensor's performance to ensure high levels of accuracy, reliability, and durability. Every single Seeed Studio weather sensor must pass a series of rigorous speed tests before being delivered to our customers.

Sensor Calibration

Wind Tunnel Control System

4

Software Suites

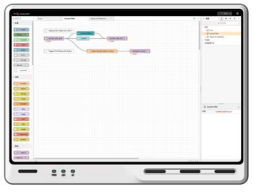
Integrated no code tools to orchestrate them all.

SenseCraft

https://sensecraft.seeed.cc/

Automate device deployment and MLops in the field

Sense Craft edge Builder




Gateways


PLC Controller


reComputer


reServer

deploy

LoRaWAN | 2G / 4G |
Bluetooth | Wi-Fi4G

Sense Craft node Builder


AI Sensors


Wireless Sensors


DTU


Tracker


Indicator

deploy

Firmware Payloads

Edge AI

alwaysAI · cochl. · cogniteam · CVEDIA · EDGE IMPULSE · Home Assistant · Hugging Face · ISARSOFT · lumeo · Nota AI · NVIDIA TAO · Node-RED · ONNX · PyTorch · roboflow · TEKNOIR · TensorFlow Lite · ultralytics

Depin

Flux · helium · IoTeX · WEATHER XM

Open source projects

ChirpStack · Node-RED · Local Jarvis

SenseCraft

Mobile App / Web toolkit

- Enable 3 steps quick configuration and easy deployment.No code, No touch, No complexity.
- Fleet management.
- Secure device up to date, not just on the cloud, but also at edge locations.
- Flexible API.
- On-premise deployment support. Remote data access, visualization.

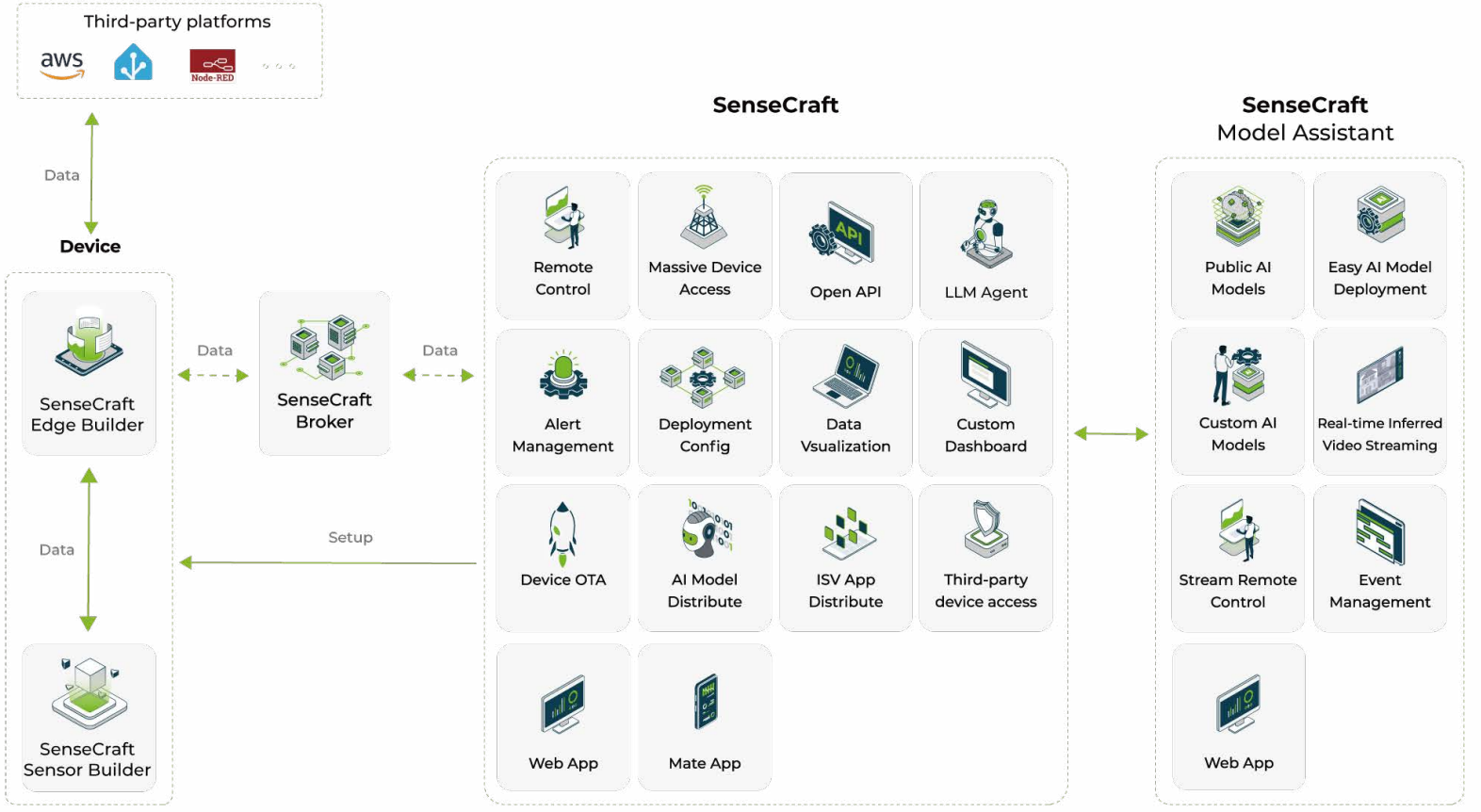
SenseCraft Model Assistant

- Only 3 steps to deploy AI models to devices.
- Build active community and model sharing mechanisms to maximize the value of models.
- Offline Available, ensuring data privacy and security.

SenseCraft Under the hood

We work closely with software partner to enable easier and more powerful solutions for customer of any skillsets. All firmware on devices are open source, and you have full control on your data flow for edge center systems.

1. the open source client firmware for MCU/ Linux based devices.
2. one stop management tool available in mobile and web.
3. MLops service for on-site data collection and model distribution.

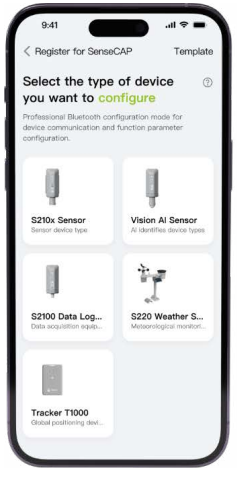


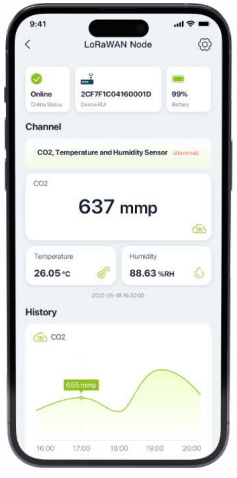
SenseCraft mobile app / web toolkits

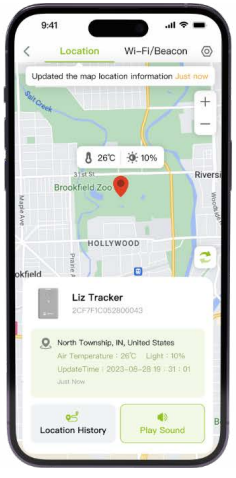
One stop management tool available in mobile and webextensibility

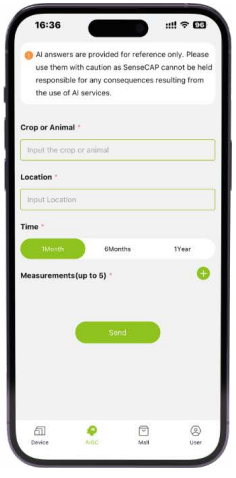
SenseCraft provides convenient and practical applications for IoT device control and management, which can help users to realize remote monitoring and control of a series of IoT devices and provide data monitoring, alarm, and visualization functions, allowing users to manage IoT devices more conveniently.

Download QR Code









Customized services

Application	IoT Web	IoT Mobile
Multiple Database	MySQL	MongoDB. redis influxdb
Multiple Network Server	THE THINGS NETWORK	helium ChirpStac MQTT
Multiple deployments	Local Physical Device(Reserver)	Local Virtual Machine Cloud Servers

Enterprises have their your private cloud

White label your own platform and App. Build your brand.

Source Code: https://github.com/Seeed-Studio/SenseCraft-Web-Toolkit

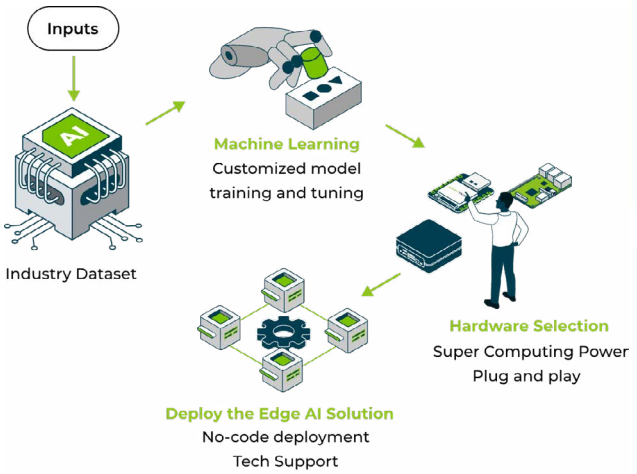
SenseCraft - Model Assistant

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

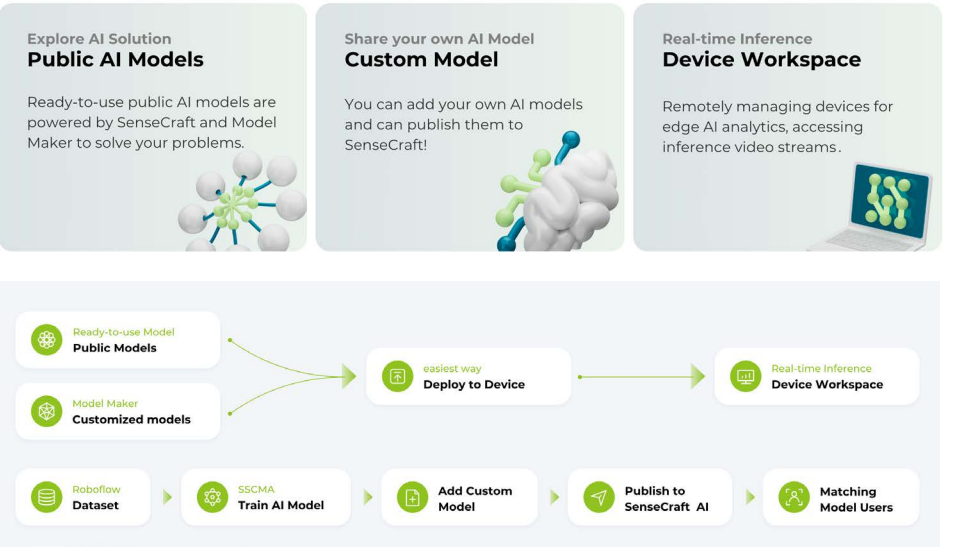
MLops service for on-site data collection and model distribution

SenseCraft Model Assistant is an AI platform dedicated to simplifying the training, distribution, and deployment of AI models. With just a few clicks, you can easily deploy models and say goodbye to tedious configuration and coding. It supports users to upload and share self-trained models, build a shared model library, and promote collaboration and innovation among AI enthusiasts. Currently supports computer vision algorithms (such as target detection, image classification, image segmentation, and pose) and LLM, making it possible to realize high-speed and accurate inference on low-cost hardware, unlocking the powerful potential of AI in edge devices.

Build Your Own AI Solutions



Key Functions



SenseCraft - DePIN Suite

Deploy web3 hardware and diagnosis with ease

SenseCAP Hotspot App

APP Store | Google Play | APP Center

Decentralized Sensors

WEATHER | IoTeX

Community powered weather network

Decentralized IoT Platform

Helium WXM Weather Station

DePIN Dev Kit

Decentralized Compute

Flux

SenseCAP M4 Square

Decentralized Sensors

helium

People-Powered Networks

MN

Decentralized VPN Network

~200K

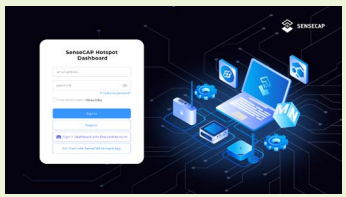
SenseCAP M1 Hotspot

SenseCAP M2 Hotspot

SenseCAP M4 Square

SenseCAP M1 Hotspot

Power By



SenseCAP Hotspot App/Dashboard

SenseCraft Device Managemnt

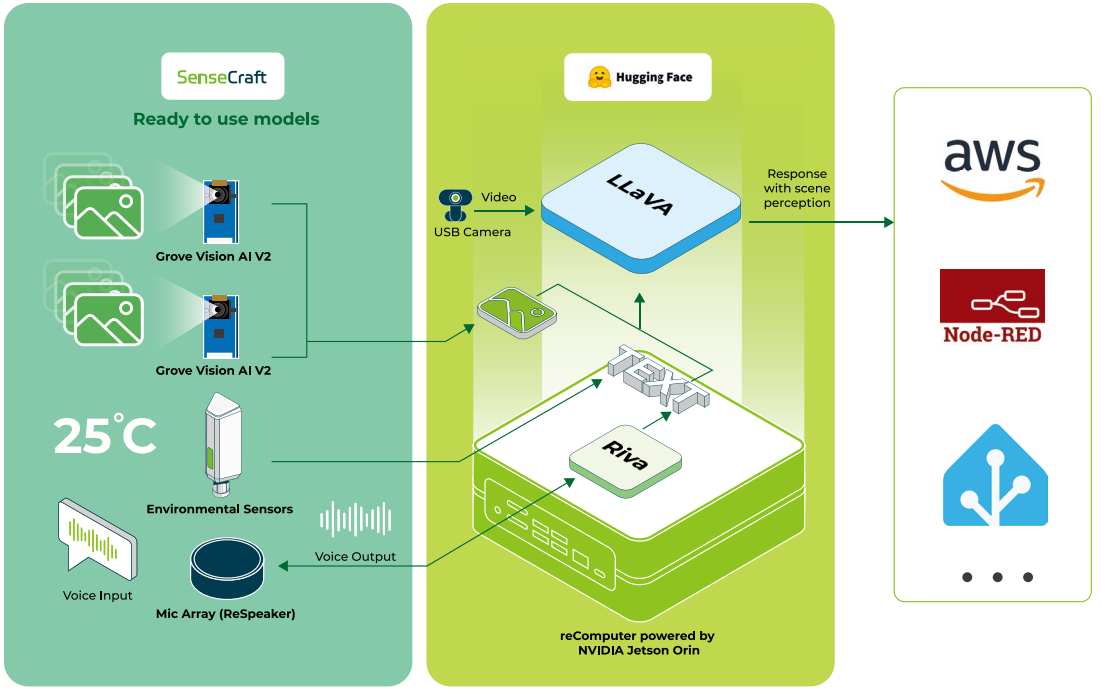
Firmware payloads : Local LLM based projects

Upgrade no-code system with generative AI interaction

Combining tinyML with Generative AI at the edge represents a forward thinking approach to harnessing the potential of AI technologies for real-world applications.

Leveraging tinyML's capability to efficiently process sensor data (vision, voice, sound, environmental) directly on edge devices, it serves as a trigger for activating more powerful, local Generative AI models like LLMs on NVIDIA Jetson.

https://github.com/Seeed-Projects/LocalJARVIS



Advanced Edge AI
(AI-Processing McU + Powerful GPU)

- Ultra-Efficient, Lower Bandwidth: processing heavy workload filter only by key frame event, focusing on crucial data.
- Simplifies deployment an easy Setup: support battery power and wireless.
- Superior ROI: Delivers greater cost savings and performance benefits.

Firmware payloads : growing ISV partnerships

https://www.seeedstudio.com/blog/ecosystem

AI ISV partners specialize in training models, designing applications, and scaling for deployment, thereby accelerating project development and implementation. Solution partners deliver comprehensive, integrated hardware and software solutions to end customers.

Balena

Balena provides a full technology stack to help customers develop, provision, deploy, and manage IoT fleets at any scale. It delivers balenaCloud, a comprehensive cloud-based device deployment and management infrastructure, to allow developer deploying container-based AI/ML applications to fleet of devices.

Application:

Container-based AI application deployment, fleet managementSupported

Hardware:

All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.

Edge Impulse

Edge Impulse is the leading development platform for machine learning on edge devices, free for developers and trusted by enterprises. Edge Impulse made ML development is easier, accelerate ML solution development using low-code to advanced integrations with the support from an expert.

Application:

Embedded Machine Learning, Computer Vision.Industry:Industry 4.0, Manufacturing, Retail.

Supported Hardware:

All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.

Lumeo

Lumeo is an open and flexible video analytics platform to bring intelligence and automation to market through vision AI. The no-code platform lets clients harness AI with their existing cameras and infrastructure to make sense of video data for alarm monitoring, customer experience, marketing, compliance, physical security, and many more use cases.

Application:

Video Analytics

Supported Hardware:

All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.

NOTA AI

Nota AI is a forward-thinking tech startup dedicated to revolutionizing AI model optimization based on Python for target edge devices. The company's cutting-edge platform, NetsPresso provides an efficient workflow for creating AI models, including seamless model training, compression, framework transition, and benchmarking.

Application:

Hardware-aware AI model optimization and edge AI

Supported Hardware:

All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.

roboflow

Roboflow is an end-to-end computer vision platform that streamlines the process between data labeling and training custom models, and deploy them in any edge device or server.It also provides the roboflow inference server, which is the easiest way to use and deploy computer vision models to perform object detection, classification, and instance segmentation and utilize foundation models like CLIP and SAM.

Application:

Computer Vision

Hardware:

All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.NVIDIA dev kit.

YOLOv8

YOLOv8 is a family of state-of-the-art object detection, classification, and segmentation models trained on the COCO and ImageNet dataset, and exports to ONNX, CoreML and TFLite. It also delivers Ultralytics HUB to enhance seamless AI model training and deployment without any code.

Application:

Object Detection, instance segmentation, image classification, pose estimation

Supported Hardware:

All Seeed Studio's NVIDIA compatible carrier boards and devices, Official NVIDIA dev kit.

Seeed Studio

2024 Product Catalog V1.0c

April. 2024

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