FAQ for SenseCAP A1101 LoRaWAN AI Vision Sensor

Camera

What is the detailed specification of the camera in SenseCAP A1101?

Full-color 30M pixel; Max Frame rate 640*480 VGA 60 FPS; Optical FOV 82º (Diagonal).

What is the ideal camera setup for image collection?

For a 30M pixel camera, it is suggested to collect images within 1m-5m to get the ideal image effect. Please make sure to face the camera straight towards the objects and have sufficient illumination (no reflect light, no overexposure), and avoid large movement and vibration when collecting.

How far could the SenseCAP Vision AI camera detect an object and have good results?

Based on our test for the people detection model, we could reach results of 70% degree of confidence within 1m-5m.

Is it possible to change the camera or have a customized version SenseCAP Vision AI sensor?

Yes, and if you have large quantity demands, please contact us via iot@seeed.cc.

Battery

How long does the battery last?

It will highly depend on the image collection and data upload frequency. If the A1101 collects image and upload the data every 5 mins, the battery could last for 4.5 years.

Is the battery rechargeable? Does it support solar energy charging?

No. If you have large quantity demands on the customized version, please contact us via iot@seeed.cc.

Model Training

How to collect image data and have the dataset?

To have better results, it is always suggested to directly use SenseCAP A1101 to collect the image, especially when you are having a relatively small dataset, or you are new to the Vision AI field and want to learn more about the whole process.

You could also use the existing image data shot from your phone or camera conveniently, or just simply purchase a dataset from the AI dataset company.

What could I do to improve and have a better result?

The AI result depends on many factors, including the quality of the images, the accuracy of the annotation, the way to generate the dataset, the model training process, the algorism used, etc.

The one you could improve with SenseCAP A1101 Sensor is to directly use SenseCAP A1101 camera to collect the image instead of using the existing images shot by other devices or using the existing dataset purchased from the third party. Especially when you are having a relatively small dataset, it will help a lot to improve the result.

And check your image collections to make sure they are having the right exposure (avoid insufficient or too strong light), right angle towards the objects, etc.

Can I directly use the embedded models provided in the product to deploy my own application?

There are two demo models provided in the product, which are developed for users to experience and test the product and experience the SenseCAP Vision AI application.

For the people detection model, you could directly deploy in a place to detect people, and you will get detection results every 5mins (or you could set longer) on how much possibility there are people during the set time frame.

For the meter recognition model, since we use a specific type of meter to generate the dataset, obviously, ideal results would not be expected if you are using another totally different type of meter to test. Therefore, more image data collection and model training would be needed.

We are here to offer you an all-in-one handy hardware device and Cloud, and you could always be able to develop your own meter recognition or other applications from scratch using SenseCAP A1101.

Other Product

What is the difference between Grove Vision AI and SenseCAP A1101?

- **Grove Vision AI Module**, which is provided in the SenseCAP K1100 - The Sensor Prototype Kit and needs to be developed with a mainboard with MCU (e.g.: Wio-Terminal or Arduino Uno). Grove Wio-E5 module is required to connect to the mainboard if LoRaWAN transmission is needed; If the low power consumption feature is not the main consideration, it could also connect to the Cloud via WiFi. (Click here to learn more)
- **SenseCAP A1101 - LoRaWAN Vision AI Sensor** is an industrial-level SenseCAP sensor that has an IP66 grade industry-level enclosure and battery, which has a Wio-E5 LoRaWAN module and MCU embedded. Benefiting from the reliable SenseCAP sensor platform, it is very convenient to add SenseCAP A1101 to the SenseCAP Mate App and Dashboard and deploy the application when the model training is completed.

Will there be more AI-related sensors developed by SenseCAP?

Now we only have SenseCAP A1101 Vision AI Sensor on the list. The next would be SenseCAP A1102 - LoRaWAN Sound/Vibration AI Sensor, but now it is still under development. Please stay tuned.