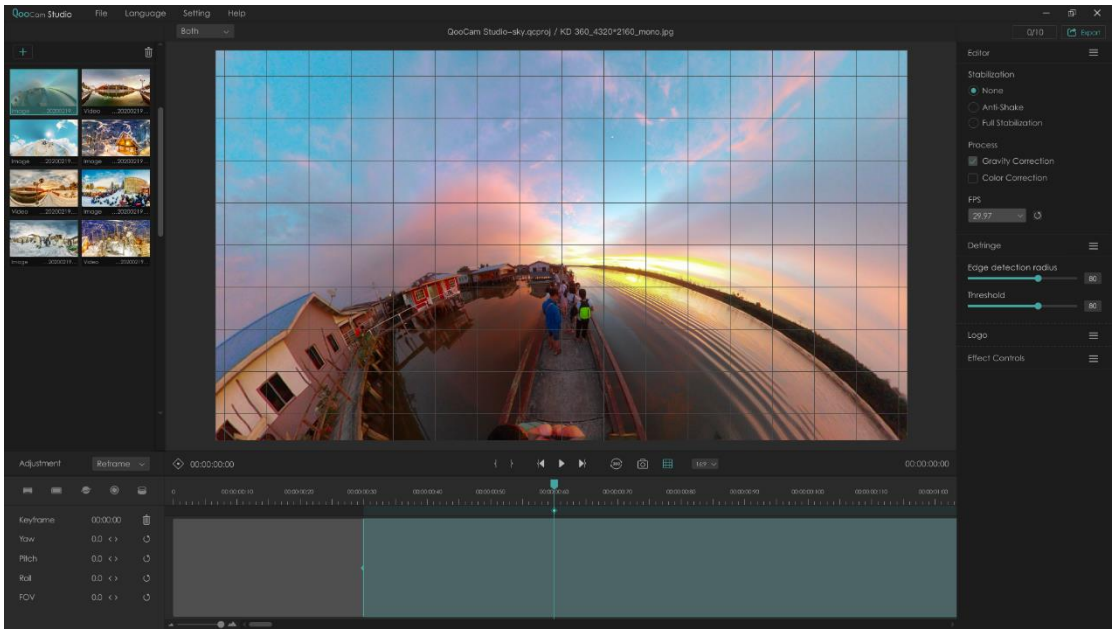
QooCam Studio
User Guide

Welcome



QooCam Studio support for native media of QooCam and QooCam 8K to stitch and edit.

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QooCam Studio Workflow

The overall process for putting together a media with QooCam Studio is described below. You don't have to do every step, and you might do others that aren't listed and the workflow is not necessarily linear.

Step1：Import your media into QooCam Studio.

To use QooCam Studio, you need to transfer your videos and images from QooCam and QooCam 8K devices to your computer's local folder or external or storage device.

Step2：Select the appropriate stitching parameters for your media.

QooCam Studio will select some stitching parameters for your media by default. These parameters are suitable for mang scenarios, but there are still special cases that need to be adjusted. The adjusted parameters will be applied in real time, and you can see the effect in the preview.

Step 3：Add effect

During this process, you can choose Panorama mode and

Reframe mode. Support different editing functions in different modes. Reframe mode allows you to add keyframe.

Step 4：**Render your media.**

You can set the resolution, bitrate, export address, and so on of the exported media.

QooCam Studio system requirements

Windows

	Minimum specifications	**Recommended specifications**
Processor	Intel® 6thGen or newer CPU – or AMD equivalent	Intel® 7thGen or newer CPU – or AMD equivalent
Operating system	Microsoft Windows 10 (64-bit) version 1803 or later	Microsoft Windows 10 (64-bit) version 1809 or later
RAM	8 GB of RAM	● 16 GB of RAM for HD media ● 32 GB for 4K media or higher
GPU	2GB	4GB
Hard disk space	1.5 GB of available hard-disk space for installation;	1.5 GB of available hard-disk space for installation;

If you have a NVIDIA graphics card, make sure that your graphics driver has been updated after January 2020 because different versions can affect media rendering.

The driver download link:

https://www.nvidia.com/Download/index.aspx

macOS

	Minimum specifications	**Recommended specifications**
Processor	Intel® 6thGen or newer CPU	Intel® 6thGen or newer CPU
Operating system	macOS v10.13 or later	macOS v10.13 or later
RAM	8GB	• 16 GB of RAM for HD media • 32 GB for 4K media or higher
GPU	2GB	4GB
Hard disk space	1.5 GB of available hard-disk space for installation;	1.5 GB of available hard-disk space for installation;

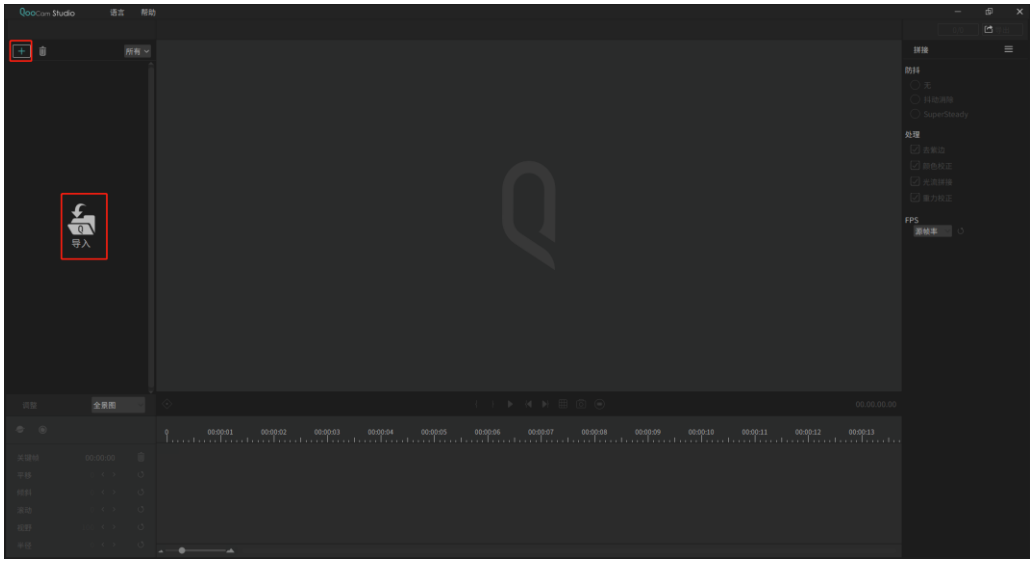
Hardware acceleration system requirements

Feature	Operating system
Hardware-accelerated H.264 encoding	• macOS 10.13 (or later) on Mac hardware from 2016 or later • Windows 10 with 6th Generation (or later) Intel® Core™ processors and Intel Graphics enabled • Windows 10 with a supported NVIDIA or AMD card
Hardware-accelerated HEVC encoding	• macOS 10.13 (or later) on Mac hardware from 2016 or later • Windows 10 with 7th Generation (or later) Intel® Core™ processors and Intel Graphics enabled • Windows 10 with a supported NVIDIA or AMD card
Hardware-accelerated H.264 decoding	• macOS 10.13 (or later) on Mac hardware from 2016 or later • Windows 10 with 6th Generation (or later) Intel® Core™ processors and Intel Graphics enabled
Hardware-accelerated HEVC decoding	• macOS 10.13 (or later) on Mac hardware from 2016 or later • Windows 10 with 7th Generation (or later) Intel® Core™ processors and Intel Graphics enabled

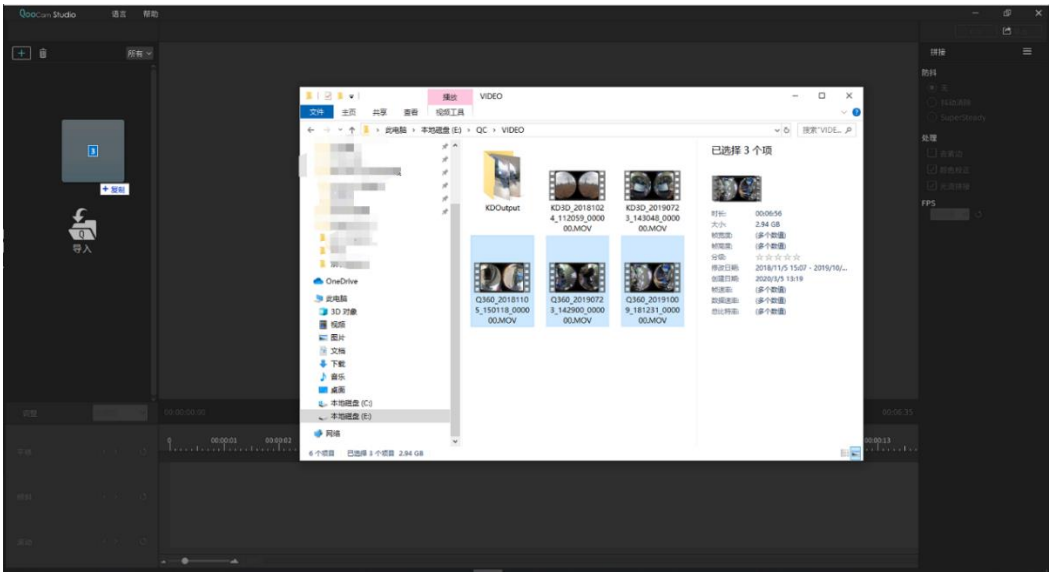
1 Import

1.1 How to import media

①Click " " or " ", open Explorer and select the media file you want to import.



②Drag import. Select your media, and drag it into the import bar.



1.2 Support media format

① Video format

mp4（H.264）

mov（H.265）

② Image format

JPEG

PNG

TIFF

2 Edit your media

2.1 Play media in QooCam Studio

Press the space bar or click the Play button in the viewer.

Stop play: While playing, press the space bar to press the pause button in the inspector.

2.2 Stitching parameters

2.2.1 Stabilization

None : Stabilization off. Suitable for video taken in a fixed position.

Anti-Shake: It will eliminate the wobble of the video and follow the direction of rotation of the camera.

SuperSteady : Eliminate lens rotation direction and video shake.

2.2.2 Process

① Defringe: It can eliminate the purple fringing caused by high contrast to a certain extent.

② Color Correction: Due to the characteristics of panoramic

cameras, the image of each lens will be slightly different in color, and there will be obvious chromatic aberration at the stitching seam. The color correction algorithm can largely eliminate this chromatic aberration, so that the entire picture remains natural. The color can be smoother.

③ Optical flow: using pixel-level dense optical flow to accurately calculate the pixel correspondence between different lenses, enabling seamless and precise stitching.

2.2.3 FPS

① 23.976

② 24

③ 25

④ 29.97

⑤ 30

⑥ 48

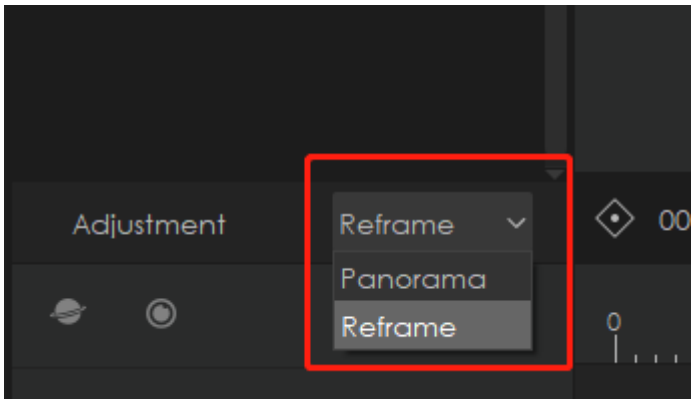
⑦ 50

⑧ 59.94

⑨ 60

⑩ Original

2.2.4 Panorama and Reframe



2.2.4.1 Reframe

① Angle parameters:

In Reframe mode, there are the following:

Yaw: range -180 to 180, accurate to two decimal places.

Pitch: range -180 to 180, accurate to two decimal places.

Roll: range -180 to 180, accurate to two decimal places.

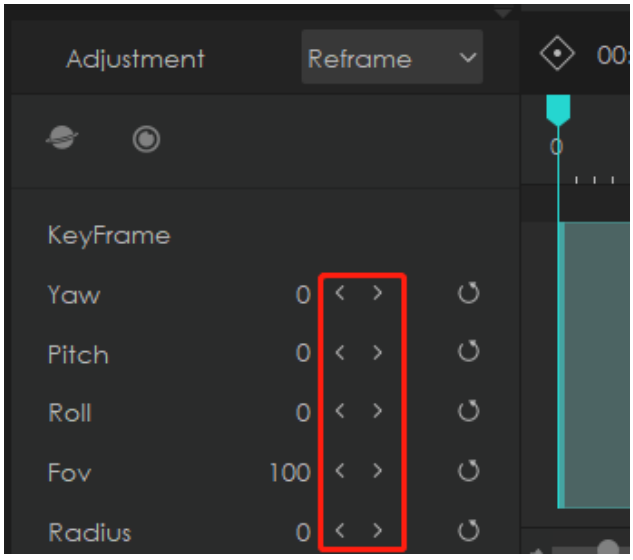
FOV: range 0 to 179, accurate to the ones.

Radius: range -2 to 2, accurate to two decimal places.

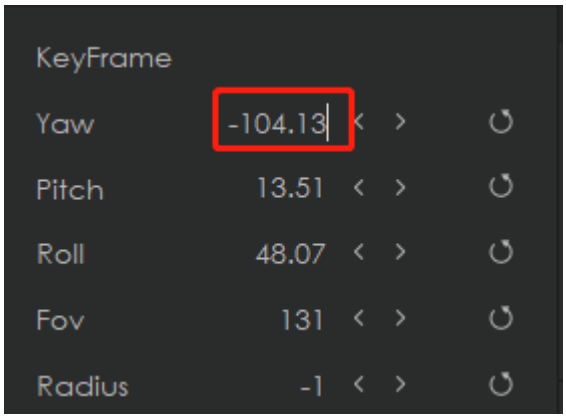
Method to adjust the viewing angle parameters:

A. Drag and drop preview screen

B、Click “ 〈 ” 和 “ 〉 ”



C、Click the parameter value, enter the value you need.



② Keyframe

In the editing mode, the key frame function is provided. Represents the control of the value of the video viewing angle parameter at a specific point in the video. When two keyframes with different values are set in QooCamStudio, the change from one value to another will be calculated, thereby dynamically changing to the second parameter.

Step 1: Click “ ◈ ”

Step 2: After click “ ” , a keyframe will appear in the timeline, and the time of the set keyframe will appear in the Adjustment window.

2.2.4.2 Panorama:

In panoramic mode, there are the following viewing angle parameters,

Yaw: range -180 to 180, accurate to two decimal places

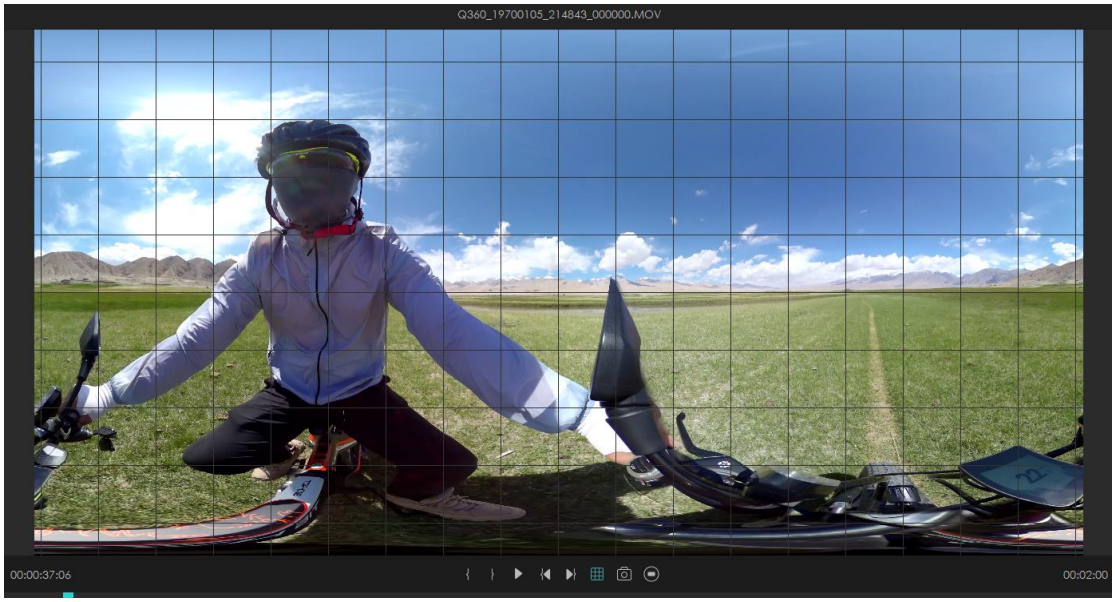
Pitch: range -180 to 180, accurate to two decimal places

Roll: range -180 to 180, accurate to two decimal places.

2.2.5 Grid

The grid function can help you accurately adjust the horizontal line of the image and position the image accurately.

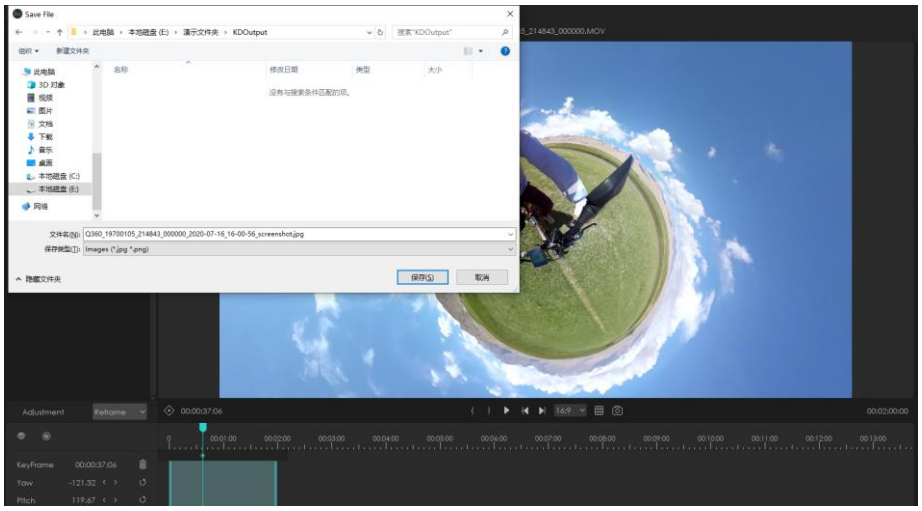
Click “ “, turn on.



2.2.6 Export current frame

As the name implies, that is to export the current frame.

Click “ “ , choose the address you want to store.



2.2.7 Panorama

In the panorama mode, the viewer bar provides the function of columnar projection preview.

Click “ “, you can change to equirectangular.

3 Render

3.1 Render Resolution

3.1.1 Panorama

7680x3840

5760x2880

3840x1920

2880x1440

1920x960

3.1.2 Feframe

① The ratio is 16:9.

4320x2430

3840x2160

2880x1620

2160x1216

1920x1080

② The ratio is 9:16.

2430x4320

2160x3840

1620x2880

1216x2160

1080x1920

③ The ratio is 4:3.

4320x3240

3840x2880

2880x2160

2160x1620

1920x1440

⑥ The ratio is 1:1.

4320x4320

3840x3840

2880x2880

2160x2160

1920x1920

⑦ The ratio is 2.35:1 .

4320x1838

3840x1634

2880x1226

2160x920

1920x818

3.2 Render Format

mp4(H.264)

mp4(H.265)

mov(ProRes)

jpg

png

3.3 Preset (ProRes)

When the export format is MOV (ProRes), there are four presets:

422 HQ

422

422 LT

422 Proxy

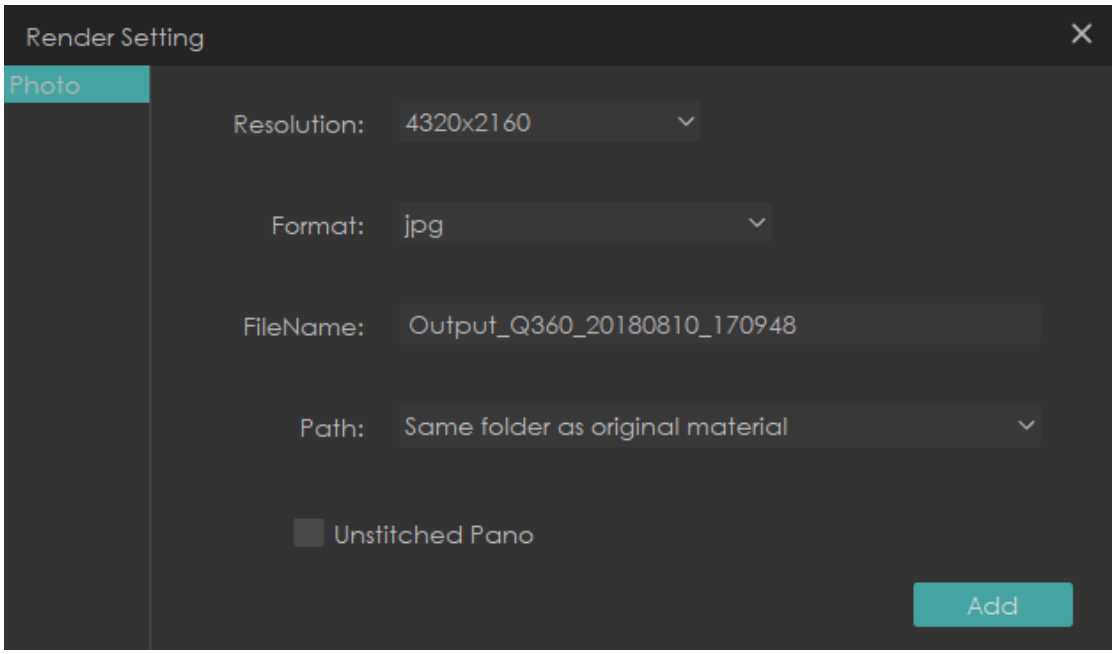
See the ProRes white paper https://support.apple.com/zh-cn/HT202410

3.4 Export path

In this step, you can select the export path of the file.

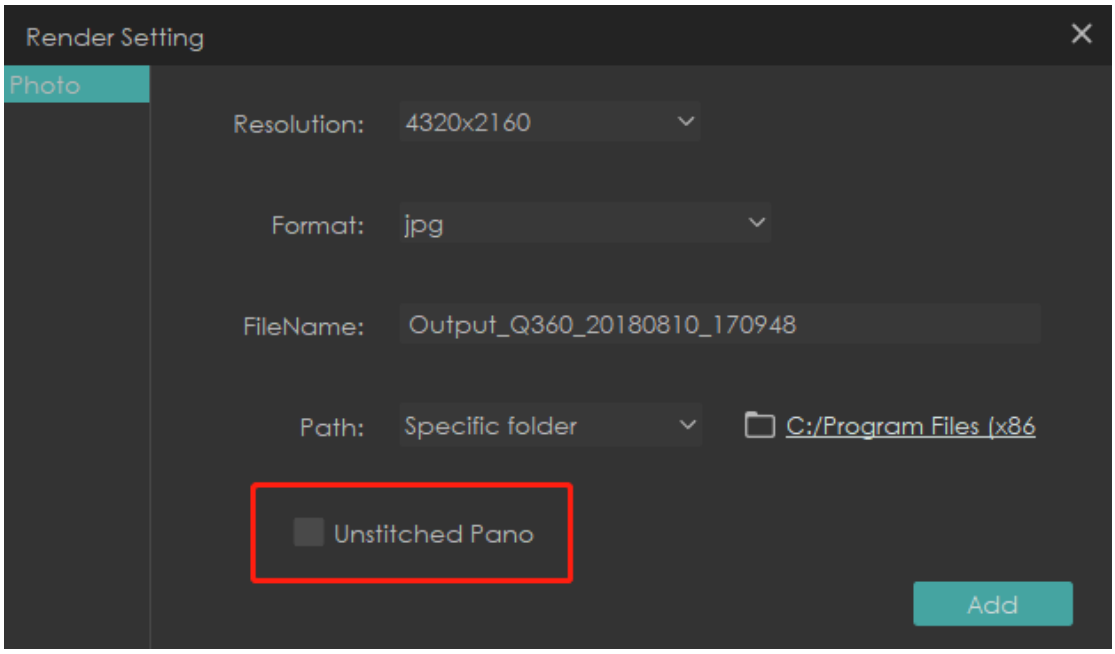
① Same folder as source material: the same address as the material you imported.

② Specify folder: select the address of the non-source material folder.



3.5 Unstitched Pano

When you want to render a image, QooCam Studio supports simultaneous rendering of two single fisheye unfolded plan views. This function allows you to adjust the stitching more naturally in other retouching software.



Tutorial:

https://prd.kandaovr.com/2019/04/26/8-tips-to-choose-the-best-360-camera/

Video Tutorial:

https://youtu.be/D-sW-HQZqKA