

Artificial Inelegance In Smartphones

Prepared by

Mohammed Haitham Hameed

–B–

AI (Artificial Intelligence). is basically a software is used model human minds, such as thinking, learning and problem-solving.

1- AI in Cameras

The AI Camera does the heavy lifting in the photography, like automatic shutter speed and exposure, saturation, colour depth, dynamic range and also contrast. AI Camera does automatic scene recognition. Once you point your camera the right direction, the AI Camera takes over to automatically tweak the settings behind the scenes for better shot

How does it work?

Before and AI Camera can do any of its wizardry, it has to first be schooled in said wizardry. Smartphone manufacturers use machine learning to develop image recognition engines which make use of a neural network trained on millions of images. From this machine learning, an AI camera develops the knack for automatically identifying scenes, available light and even the angle the of the scene. As such, your camera knows that it's looking at a person, food, nature, animals, e.t.c. Subsequently, the AI camera chooses the most applicable exposure and colour adjustments for that perfect shot.

We are going to discuss some AI functions in p20:

The AI camera in HUAWEI P20 can recognize more than 500 objects and categorize them into 19 scenes, the processor is able to identify objects and distinguish one thing from another, Huawei had put the AI through over 10 million images when designing the SoC. It was a long, long laborious process.

Each scene is associated with a set of optimized parameters, for instance, once the HUAWEI P20 detects that a user taking a photo of the sky, it will enable the "Blue Skies" scene and hike the color saturation, enhancing the color of the skyline to make the blue looks even more vibrant. And it works during overcast days, too. As shown in figure below

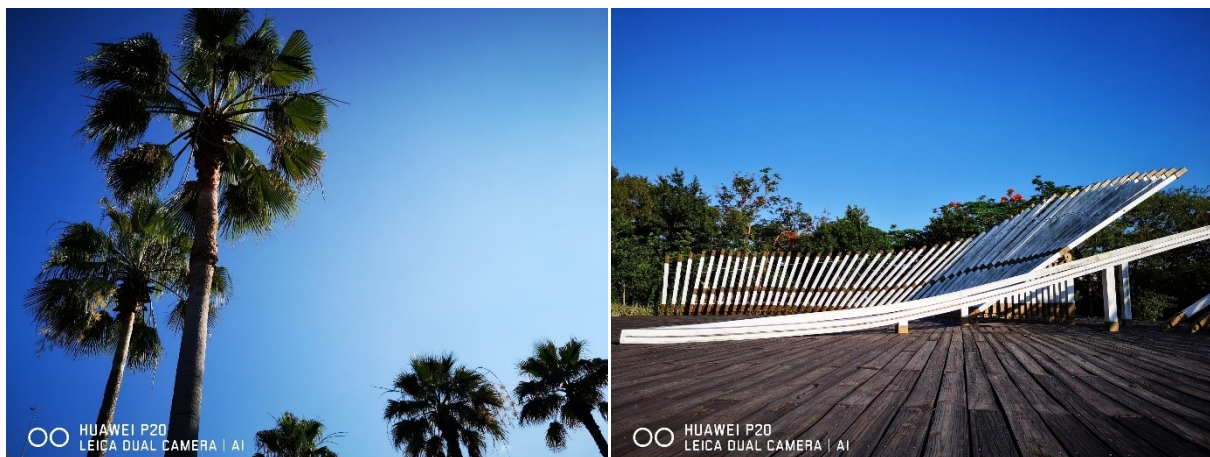


Figure 1

The photo below features a flower planted against a background of greenery – another scene among the 19 categories supported by Master AI camera. However, since the neural processing unit (NPU) in the SoC can intelligently identify the objects by assessing their size and position, Master

AI had no trouble identifying the flowers and enabling "Flower" mode to highlight the red flowers while adding a bokeh effect to the background.



Figure 2

And when an close up was token the AI made the camera able to differentiate the photo from the background as shown the picture below



Figure 3

- 2- Face recognition which was applied by apple in unlock phone in creating emojis that look like the user .
- 3- voice-assistant to help users to pull information about anything as well as opening apps .