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A04

Image Processing Adventure Quest

Learning the difference between OpenCV and Pillow for me was very informative and interesting. Having a real in-depth knowledge understanding of editing, video, & photo manipulation I didn't understand how close they intertwined in the realm of the creative world. I had to take some time to do research on what these 2 things were even capable of. I learned OpenCV is an advanced open source library used for computer vision and image processing. It has the capabilities to read and write images such as, JPEG, PNG, TIFF, PDF, & etc. It's responsible for tasks like resizing, cropping, rotating, and filtering video & photos. That alone really got me interested, because this whole time I've been using methods related if not intertwined with this technology. The ability to complete object detection, facial recognition, machine learning , assisting in augmented reality, and image enhancement are completely amazing. Being able to really take a step back to gather some insight and understand how important computer virtualization is really made me appreciate its capabilities.

Pillow which in a sense is different than OpenCV because of the simple functionalities. Based on my research Pillow is more so designed for simple basic manipulation while OpenCV is more advanced. Pillow is associated with an older Python library. Just because it's more simpler, and not as new doesn't mean its not efficient as well. It can still complete simple tasks that you may need in a very proficient manner. Pillow is preferred by a lot of users based simply on the ease of use of the library, and the purpose/task at hand. It works with pretty much the same file formats that OpenCV can use. Some of the disadvantages I found where basically centered around lack of support for advanced image processing techniques, object detection, edge detection & etc that are used for more advanced image editing. Also no video or real time processing, & performance for larger scale tasks are disadvantages listed.

Some of the advantages of OpenCV are advanced image processing, optimization for performance, advanced filter and effects, and real time video support. Some of the disadvantages of OpenCV is a steeper learning curve. It's definitely more complex when it comes to learning vs. Pillow. Limited support for drawing text/shapes, and being more complicated in task like resizing or saving an image where Pillow may be the better choice. It was very informative diving into these different libraries to gain an understanding of their capabilities.

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