International Journal of Research Publication and Reviews

Computer Vision in Artificial Intelligence

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ABSTRACT

Computer vision is a branch of computer science that empowers machines to see recognize and process images just like human's computer. in artificial intelligence and machine learning and computer vision makes use of general learning algorithms and may require the use of specialized methods this diagram shows the relationship between artificial intelligence and computer vision this might seem easy but it's not so because computers are not the same as humans.

Keywords: computer vision system include the lighting, lens, image sensor, vision processing, and communications.

I. INTRODUCTION

Computer vision is defined as a field of study that focuses on developing techniques to help computers see and understand the content of digital images such as video and photo. in the context of computer vision there are various methods in which machines are able to understand and sense their surroundings one object detection with object detection the machine is able to sense elements of an image by extracting pixels and running them on a machine learning or deep learning algorithm one of the most common examples of object detection is facial recognition. which is used to secure access to smartphones two 3d scene reconstruction computer vision algorithms can reconstruct 3d objects from 2d imagery taken from multiple the most popular applications of this technology are seen in architecture and interior design three image and video pre-processing advanced of computer vision technology.

II. METHODOLOGY

we see a new type of monkey the same connection strengthens making it easier for us to recognize an animal as a monkey next time with machines we use similar neural networks but those networks are artificial an artificial neural network is an advanced machine learning Computer vision in artificial intelligence is the electronic devices that can use computer vision such as computer, pc, laptop and mobile phone by the camera phone in that case computer vision work how? In that case computer vision application how to work is his is a monkey you know that everyone and call it a dog well not necessarily sometimes children mix up monkey and dog especially if they weren't exposed to different breeds or colors or sizes of animals before but as soon as they've seen enough monkey and dogs and other furry friends they've learned the difference we apply similar logic when helping machines understand the visual world this technology helps. cars as well as react to road signs and that's how computer models can locate tumors in mri images with up to 90 percent accuracy the image recognition skill allows computers to process more information than the human eye often faster and more accurately or simply when people are not involved in looking so how can machines see and interpret the visual world Mainly how brain work in computer vision those new a neuron in our brain lights up with an electrical impulse and sends the message about a new experience to other neurons forming connections everything we know is shaped by these neural connections networks of them whenever algorithm that can answer questions without any hints from humans question easily

Computer vision there are a different type such as mage segmentation, object detection, facial recognition, pattern detection, image classification,

1. **Image segmentation: -** in image segmentation is a method of dividing a digital image into subgroups called image segments, reducing the complexity of the image and enabling further processing or analysis of each image segment
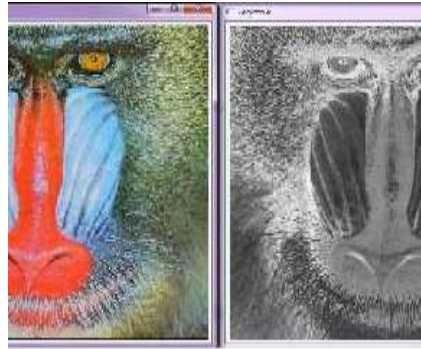
Fig   1.1.https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.researchgate.net%2Ffigure%2FMethods-of-Image-Segmentation_fig3283954
079&psig=AOvVaw1U0hLARyITEPFni2et9P&ust=1665841864743000&source=images&cd=vfe&ved=0CA0QjRxqFwoTCNDLmd7u3_oCFAAAA
AdAAAAABAI

2.   **Object detection=** Object detection is a computer vision technique for locating instances of objects in images or videos.
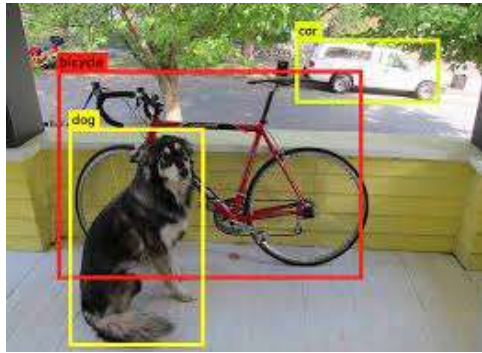

Fig2.2   https://www.google.com/imgres?imgurl=https%3A%2F%2Fmiro.medium.com%2Fmax%2F739%2F1*IrptRDRG8IL9o-55BKjbLA.png&imgr
e furl=https%3A%2F%2Ftowardsdatascience.com%2Fdeep-learning-

3.   **Face recognition: -** in a face recognition to verify our face then unlock your mobile phones and other security purposes to use this vision

https://www.google.com/imgres?imgurl=https%3A%2F%2Fc8.alamy.com%2Fcomp%2FW9E8W0%2Fsmar

4.   **Pattern recognition: -** in this vision there are two type first is pattern recognition and second is advance pattern recognition

i) Pattern   ii) fingerprint advance

https://www.google.com/imgres?imgurl=https%3A%2F%2Ftheappsolutions.com%2Fimages%2Farticles%2F219%2Fpattern-

III. CONCLUSION

The purpose of this research was derterming that computer vision how word and hows smart and different part of the vision so, by the computer vision is very useful for various kind of sector like company sector, ticket booking sector, examination hall, school and colleges and also our day today life useful in our mobile phone security and various field of security is very strict to for that computer vision. Computer vision work in our most important part of the world technology. And they play important role in our digital technology life. S. . And the computer vision is need for our future technology base there are the computer vision is very easy and quickly access work better therefor, it seems to be the our technology become bigger since the computer vision become advance developed so from our research and analysis we concluded that the computer vision technology is very easy high security and make powerful technology in world.

References

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