IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, January 2024

Image Analysis Leveraging Machine Learning And Ai For Detection, Recognition, And Classification

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Abstract: *Objects that are immediately visible to the human vision can be readily identified and detected. We are aware that the visual system of humans is highly accurate and rapid, and it is capable of performing intricate tasks such as object identification and detection with ease. However, consider a scenario in which we are required to locate a ring from a table that contains a variety of materials and cases of varying sizes. It will require a significant amount of time to locate the key, and we will encounter some challenges. In the same way, the availability of a vast quantity of data and algorithms enables us to easily train datasets, calculate, and classify multiple objects with high accuracy, thereby eliminating the need to waste a single second in the search for a ring. AI, ML, and DL are trendy in this era. Computer vision is one of the most widely recognised fields of artificial intelligence. Computer vision is a field of study that involves the recognition and comprehension of images using computer hardware and software. It also encompasses object detection, image recognition, and other related tasks. The concept of modern image detection, image classification, and object recognition will be concisely explained in this paper.*

Keywords: Machine learning, Artificial intelligence.