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# *Image Recogniser and Captioner*

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***Abstract***

*The era of mobile technology opens the windows to the mobile applications. Along with these applications, the use of intelligent computer programs are observable. It is related to similar task of using machines to understand human intelligence. Combining both the usage of mobile applications with use of Artificial Intelligence is increasing at an alarming rate One application that falls into category is the "Image Recogniser and Captioner" developed for Android phones.*

*The prime objective of the "Image Recogniser and Captioner" is to create a full fledge Android application which could allow users to search for anything from mobile phones by just clicking the pictures. It recognises the content of the image along with the body posture the human being. The result is obtained in the caption describing about the image.*

***Keywords:** Image Recogniser and Captioner", Artificial Intelligence (AI)*

## INTRODUCTION

Advances in Artificial Intelligence (AI) technology has enabled engineers to come up with a software that can recognize and describe the content in photos.

Today, computer vision has greatly benefited from the deep-learning technology, superior programming tools, exhaustive open-source data bases, as well as quick and affordable computing. Although headlines refer Artificial Intelligence as the next big thing, how exactly they work and can be used by

businesses to provide better image technology to the world still need to be addressed.

Currently, the advances in computer vision are providing tremendous, new opportunities to analyze images that exponentially impact various business verticals, from advertising to automotive". With the application of Artificial Intelligence across numerous industry sectors, such as gaming, natural language procession, or bioinformatics, image recognition is also taken to an all new level by AI.

It is claimed that artificial intelligence is playing an increasing role in the technological and operational research areas. Intelligence is commonly considered as the ability to collect knowledge and reason about knowledge to solve complex problems. Artificial intelligence is the study and developments of intelligent machines and software that can reason, learn, gather knowledge, communicate, manipulate and perceive the objects. John McCarthy coined the term in 1956 as branch of computer science concerned with making computers behave like humans. It is the study of the computation that makes it possible to perceive reason and act. Artificial intelligence is different from psychology because it emphasis on computation and is different from computer science because of its emphasis on perception, reasoning and action. It makes machines smarter and more useful. It works with the help of artificial neurons (artificial neural network) and scientific theorems (if then statements and logics).

Artificial intelligence has the advantages over the natural intelligence as it is more permanent, consistent, less expensive, has the ease of duplication and dissemination, can be documented and can perform certain tasks much faster and better than the human.

With Artificial Intelligence in image recognition, computer vision has become a technique that rarely exists in isolation. It gets stronger by accessing more and more images, real-time big data, and other unique applications.

## OBJECTIVE

Making an Android Application that can help people to know what they are seeing by just clicking picture of it.

## PLATFORM USED

Below are some of the general techniques available for monitoring.

### *a) Android Studio*

It is the official integrated development

environment (IDE) for Google's Android operating system, built based on Jet Brains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (ADT) as primary IDE for native Android application development.

***b) Android SDK***

The Android software development kit (SDK) includes a comprehensive set of development tools. These include a debugger, libraries, a handset emulator based on QEMU, documentation, sample code, and tutorials. Currently supported development platforms include computers running Linux (any modern desktop Linux distribution), Mac OS X 10.5.8 or later, and Windows 7 or later. As of March 2015, the SDK is not available on Android itself, but software development is possible by using specialized Android applications.

***c) Java SDK***

The Java Development Kit (JDK) is an implementation of either one of the Java Platform, Standard Edition, Java Platform, Enterprise Edition, or Java Platform, Micro Edition platforms released by Oracle Corporation in the form of a binary product aimed at Java developers on Solaris, Linux, macOS or Windows. The JDK includes a private JVM and a few other resources to finish the development of a Java Application. Since the introduction of the Java platform, it has been by far the most widely used Software Development Kit (SDK).On 17 November 2006, Sun announced that they would release it under the GNU General Public License (GPL), thus making it free software. This happened in large part on 8 May 2007, when Sun contributed the source code to the OpenJDK.

**RESOURCE REQUIREMENT**

1. Android Studio
2. Android SDK
3. Microsoft Azure Services
4. Java Development Kit

**METHODOLOGY USED**

**Step 1:** Taking a picture
This can be executed in many ways By taking images with the help of camera with help of different applications By using images saved in our device's storage memory

**Step 2:** Sending Request
After the picture is made available, the application will communicate with the API

to upload the picture.

**Step 3:** Receiving the response

After the query picture is processed, the API returns the response. The use received captions and tags of the recognised objects according to the specific needs.

## LITERATURE SURVEY

In past few years, the detection of Objects in real time and Image processing has become an active area of research and several new approaches have been proposed. Several researchers have conducted many studies about Object detection- 1. S.V. Viraktamath, Mukund Katti, Aditya Khatawkar & Pavan Kulkarni has conducted a study of openCV and also have published an IEEE paper for Face Detection and Tracking using OpenCV. Their work is related with converting web cam captured 2D Images and convert them into 3D Images related to human faces by constructing 3D Geometry data outputs .

Ashish Pant, Arjun Arora, Sunnet Kumar and Prof. R.P. Arora form DIT Dehradun have researched about Image Processing and encrypting an Image in order to transfer safely over the networks. They entitled their work as Sophisticated Image Encryption Using OpenCV.

Kevinhughes, an elite individual in Opencv area has written a number of blogs containing projects tutorials in this area and steps for installing various softwares. Serge Belongie and Jitendra Malik, members of IEEE have done a wast study in the field of Shape Matching and Object Matching Based on their shapes, differentiating two object based on the difference in their shapes.

Orlando J. Tobias, and Rui Seara, Member, IEEE, have put their great efforts studding the ways and techniques for Image Segmentation and histogram Thresholding.

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## CONCLUSION AND FUTURE SCOPE

In this paper, we have discussed about object and Image recognition method. Future Work includes so many possibilities related to the Text recognition and Emotion Recognition.

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