Amazon Rekognition is a service that makes it easy to add powerful visual analysis to your applications. Rekognition Image lets you easily build powerful applications to search, verify, and organize millions of images. Rekognition Video lets you extract motion-based context from stored or live stream videos and helps you analyze them.

Rekognition Image is an image recognition service that detects objects, scenes, and faces; extracts text; recognizes celebrities; and identifies inappropriate content in images. It also allows you to search and compare faces. Rekognition Image is based on the same proven, highly scalable, deep learning technology developed by Amazon’s computer vision scientists to analyze billions of images daily for Prime Photos.

Rekognition Image uses deep neural network models to detect and label thousands of objects and scenes in your images, and we are continually adding new labels and facial recognition features to the service. With Rekognition Image, you only pay for the images you analyze and the face metadata you store.

The codes and techniques of image recognition have been discussed. Now, lets take a view on the real time applications of image processing and the project.

* Image recognition can be used to help the people with an impaired vision, including both, the old people and the handicapped. The output from the code can be dictated out or said out loud in any language by integrating the project with text-to-speech command. This can help people by capturing the image by a high-resolution camera, processing it, and then returning the output as a speech. For example, when a blind man is on his way back home, he can get to know about the obstacles like staircase, a pothole or even a dog sitting on the road.
* The second most important application is that project can be used for educational purposes. A young child can use image recognition to understand what the things around him are. With a little of deep learning integrated with the project, a distinguished knowledge between good and bad things can be imparted to the young mind.
* The project can be used for recognising image in low light too. The shots taken in low light can be served as trial cases for the project and results can be used to interpret them in English language. This can reduce human labour and also if the accuracy is beyond a particular mark, it can be used for safe guarding places at night time and in conditions of low light.
* A real-world working model that has been adopted is AMAZON’s Go. It is a shop designed by Amazon in which everything is automated. Starting from the entry of the customer to keeping a track of what he purchases and keeping a track of the stocks in shop, everything is done by machines. For an example, when someone touches a particular thing in the shop and keeps it in his basket, the cameras installed in the shop take a picture of that and through image recognition, the thing purchased by the person is analysed and the product is added in the bill automatically. In the back hand, the count of that particular thing is decreased by the number of units purchased and the stock are maintained by the machines only with the help of big data analysis. This is a huge advancement in the history of shopping and machines being used in their full potential. A link has been provided for a better understanding - https://youtu.be/L9W5jvASCJs
* The project can also be used for deletion of duplicate pictures in a database. This will work by comparing the outputs of different trial cases and deleting the same or compressing them to save memory.
* The project can also be integrated into security cameras that can detect the entry of an unknown person and using SNS services, a prompt or a notification can be sent through Email or text messages to a responsible person so as to avoid any mishappening. The faces are captured every time someone crosses the vicinity of the cameras and the photo is pushed to the server where the face is compared to the faces of the known or allowed people. If the face matches any one of the allowed people, a safe message is passed to the master device, else a warning message is sent.
* Image sensing can also be used in defence security. The images from satellites can be compared from time to time to see if any changes are seen near the border. If any unusual thing is observed, warning message is sent to the team.
* The traffic density on roads and condition of roads can also be monitored with the help of image recognition techniques. Hourly shots can be taken and analysed with the help of algorithms. In conditions with heavy traffic, monitoring can be changed for better.