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| CSCI 992 Project Proposal |
| The Research of Picture recognize and Auto coloring |
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The Research of Picture recognize and Auto coloring (Temp title)

1. Introduction

The topic of this research is to implement the picture recognize and auto coloring which is based on the recognizing algorithm and machine learning. Algorithms about machine learning and image recognition is the hot trends of artificial intelligence in the computer science, and their popularity does not seen to be losing any momentum. For instance, PaintsChainer, the website provides auto coloring service, give the state of shock to the painting field in 2016, and it has undoubtedly become a significant application in machine. At almost same moment, The cloud version API was open by Google in the February. It is the service that help developers to integrate the function of image recognition. Base on these news in the last year, our group intend to research and apply the image recognize and auto coloring.

1. Project Background.

Artificial intelligence(AI) is always the hot spot in the computer science at any time. Artificial intelligence, just as the meaning of its name, looks like a intelligence which exhibited by machine. The well-trained AI can do works as real person or similar with person.

Recognition is a important branch of the AI. However, the accuracy of image recognize nowadays is still a hard challenge in artificial intelligence field, therefore it is highly being focused that how to improve the correct rate of ‘guess’ the object. If these problems can be solved, the works of the animation can be largely reduced because they just need to draw the important part for each picture such as scanning line. The boring jobs, for example coloring, will be finished by machine. Moreover, filling color for a picture in the correct style is also important part in the process of the animation works. In current situations, training through numerous artist’s artworks is the most common way to achieve this goal. After this progress, the machine will modify any raw painting into the style of training painting. It will be amazing application for the painters if can make it into the reality.

Based on this background, our work will have three parts. In the first part, it need to recognize the raw painting and modify it into the relevant painting. For instance, the machine can ‘know’ what the draws on the paints. During this process, the system need to recognize and complete an object. Besides, the style of drawing the picture also need to be learned from the people’s draft in order to make sure that the picture will be completed in the matching style. The second part is to color the whole picture. which will base on the deep learning——it also belongs to the artificial intelligence! The last part of our application will modify the picture into the matching style so that make it look like masterpiece.