Int to Artificial Intelligence

Final Project: Image Classification on American Artists; Andy Warhol and Jackson Pollock

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American Art Classify.ipynb

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```
[26]            plt.yticks([])
                plt.grid(True)
                img=mpimg.imread(img_path)
                imgplot = plt.imshow(img)
                plt.show()

        ###################################



        model.save('/content/gdrive/My Drive/artworks/AndyWarhol_JacksonPollock_model.h5')
```

```
[[0.]]
Andy Warhol
```

American Art Classify.ipynb

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```
[25] import matplotlib.pyplot as plt
     import matplotlib.image as mpimg

     plt.figure(figsize=(10,10))
     for i in range(1):
             plt.subplot(10,10,i+1)
             plt.xticks([])
             plt.yticks([])
             plt.grid(True)
             img=mpimg.imread(img_path)
             imgplot = plt.imshow(img)
             plt.show()

     ###################################
```

```
[[1.]]
Jackson Pollock
```

This program classifies painting images of two artists who are Andy Warhol and Jackson Pollock. The reason I chose two artists is that each of the two artists' styles is so unique that it is easy to distinguish the two artists' paintings. Two artists were American based artists during the same period in the 20th century. But Jackson Pollock painted abstract art using action painting while Andy Warhol was a pop artist. I got a image dataset from Kaggle. There were 181 paintings from Andy Warhol and 24 paintings from Jackson Pollock. To make the balance in the number of paintings, I copied and pasted Jackson Pollock's paintings to become 144. I trained the model which has a convolutional neural network with 100 epochs. As a result, the training and validation accuracy becomes almost 1 and the training loss becomes almost 0. When I put Andy Warhol's or Jackson Pollock's artwork in prediction, it shows the correct answer.

I can tell some examples of how deep learning is used in our lives. Usually, it is used to increase the accuracy of the answers given by computers. There are many examples like improving the accuracy of translations by analyzing natural language, smart speakers that listen to people's voices and translate it to machine language. Machine learning is also used to classify data into proper categories. The most studied area in image classification would be the project to read handwritten characters. Even robots have been created to learn art paintings and draw.

I made a program that classifies painting images of two artists who are Andy Warhol and Jackson Pollock. The reason I chose two artists is that each of the two artists' styles is so unique that it is easy to distinguish the two artists' paintings. To briefly explain about the artists, Two artists were American based artists during the same period in the 20th century. Jackson Pollock is an abstract artist while Andy Warhol was a pop artist. I got a image dataset from Kaggle. There were 181 paintings from Andy Warhol and 24 paintings from Jackson Pollock. To make the balance in the number of paintings, I copied and pasted Jackson Pollock's paintings to become 144. I trained the model which has a convolutional neural network with 100 epochs. As a result, the training and validation accuracy becomes almost 1 and the training loss becomes almost 0. When I put Andy Warhol's or Jackson Pollock's artwork in prediction, it shows the correct answer.

Like this, I can say some examples of how deep learning is used in our lives. Usually, it is used to increase the accuracy of the answers given by computers. There are many examples like improving the accuracy of translations by analyzing natural language, smart speakers that listen to people's voices and translate it to machine language. Machine learning is also used to classify data into proper categories. The most studied area in image classification would be the project to read handwritten characters. Even robots have been created to learn art paintings and draw.