Immersive Learning

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RT
RENDERING TOOL

Abstract

This project's main objective is to create an immersive learning environment through the use of high- level user face interaction. The purpose is to curate a rendering tool where human data can be transformed into rich, personalized experiences through a series of powerful, one-of-a-kind interactions. It aims to incorporate both aspects of visual arts and technology- merging them in a unique way that will transform a space into an immersive learning environment. To achieve this goal, a neural style transfer network is used to train images to generate into a single- stylistic image.

Projection

Collecting Data

- Collecting multiple artworks done by a visual artist and complexed RGB images.
- Researching Computer Vision Frameworks

Training Setup

- Using VGG19 Convolutional Neural Network (CNN) to train and test the models on pair of style and content(you didn't say content image during presentation) images.

Final Output

- Generating a stylistic image and combination of both the stylistic image and a RGB image via CNN.

Stylistic Image Generation

Content & Image Combination

Technologies

jupyter Keras TensorFlow

Future Work

To enhance the rendering tool, gesture recognition will be implemented to control the combination of the two images. This can be done by using a live streaming camera to track a human hand's motion.

References

"Neural Style Transfer | TensorFlow Core." TensorFlow, www.tensorflow.org/tutorials/generative/style_transfer. Accessed 4 May 2022.

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