What's project called?

- Project Arabia

Here's the elevator pitch

- Computer machines are talented enough to draw a professional visual art from Arabic Alphabets from the world east and style it based on an old book images from world's west to emphasize the connection between cultures.

It's built with

- Python, google colab, canny edge detection, neural style transfer, dataset scraping using SAIA python

Here's the whole story

- Islamic art and culture is heavily influenced by both meaning and form of the written word. Prior the advent of Islam, the written word was significant. However, with the rise of Islam and holy book of Qur'an The written word become a symbol of both Islamic faith and civilization. Arabic writing expressed through the fine art of calligraphy has pervaded the visual art. Arabic calligraphy has been known and acknowledged for its diversity and great potential for development. Furthermore, it has been linked in the Islamic civilization to various fields such as art, architecture and more. This art integrates a cultural language with the language of geometry. The fidelity of Arabic scripts offers indefinite possibilities for designing calligraphic expressions, even with a single word Since letters can be stretched and transformed in some numerous ways, to create different modifies. We are living in Saudi Arabia which is represented as the heart of Islamic and Arabic nations. We tried to employ The Arabic Calligraphy in our project. In this context, we titled our project to be 'Project Arabia' to consider our Project as a part from ai artathon, as well as, Arabia to represent our cultural background in the kingdom Project Arabia concentrated on training computer machines how to draw a creative visual art from Arabic alphabets after extracting them from an uploaded image. The extracted alphabets' colors, positions and scales will be drawn by the machine and it will be trained to transfer its style based on a predefined dataset. The generated artworks are mixing the distributed alphabets and style them with old books' images, to prove the capabilities of Arabic Calligraphy to link between cultures. Having these artworks was not an easy trip. We struggled with all the challenges we faced to achieve our goal and make it real. Our artwork takes the beauty of Arabic alphabets that is drawn in several types of calligraphy. Meanwhile, Transform its style from scrapped images [datasets] to explore the varying relationships between popular culture and fine art. Canny edge detection technique had been used to detect the frames of each alphabets Background cleaning is used by adding alpha channel to the extracted alphabet's images to have a transparent background Normal distribution with random number generators had been employed to achieve random positions and scales The use of normal distribution is to have some kind of layers over each letter. More than 1000 execution to achieve the best combination between machine drawings and neural style transfer and results of 550 artworks based on datasets volume. Accumulative style transfer has been implemented to get complex style migration between images. As a 'Project Arabia' team, we are looking forward to develop this idea in term of providing an API, that can be used by social media users to convert their posts and tweets to an artwork.

Try it out