

The background of the image features a dynamic, abstract design. It consists of large, expressive brushstrokes in shades of green, teal, and blue. Interspersed among these strokes are several white, textured splatters of varying sizes, some appearing like paint splatters and others like ink blots. The overall effect is one of movement and energy.

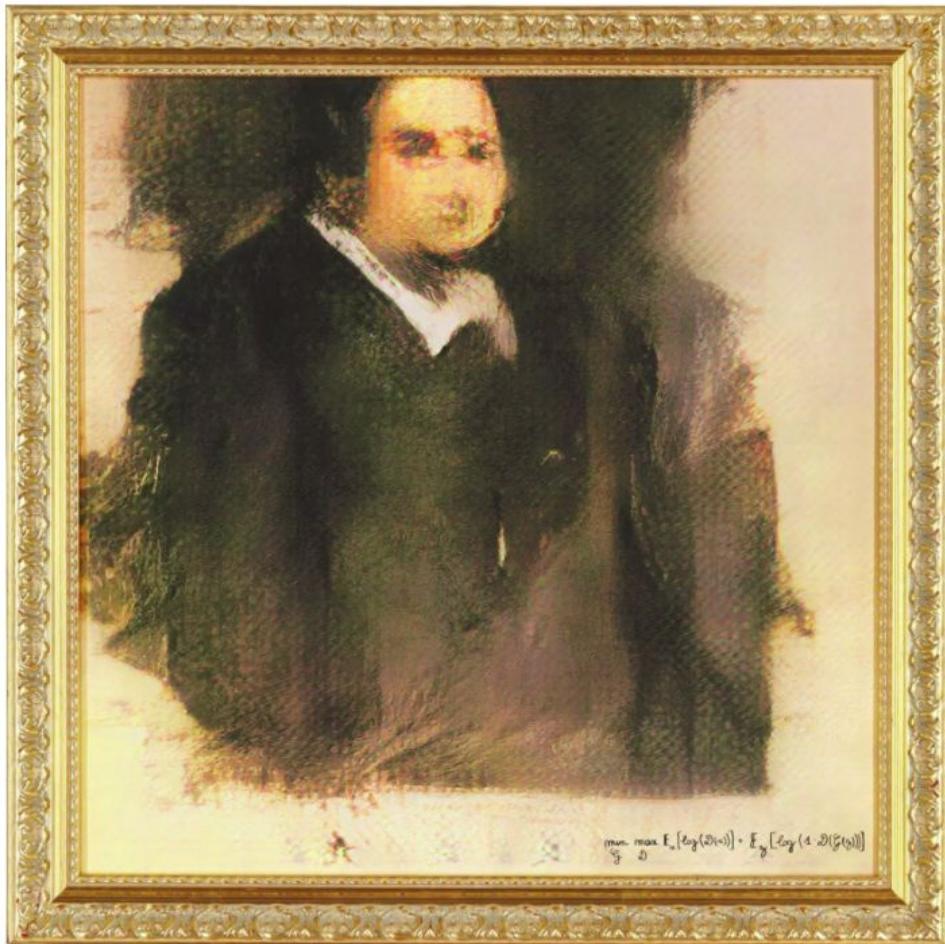
# Portraitizer

By Jone Cho

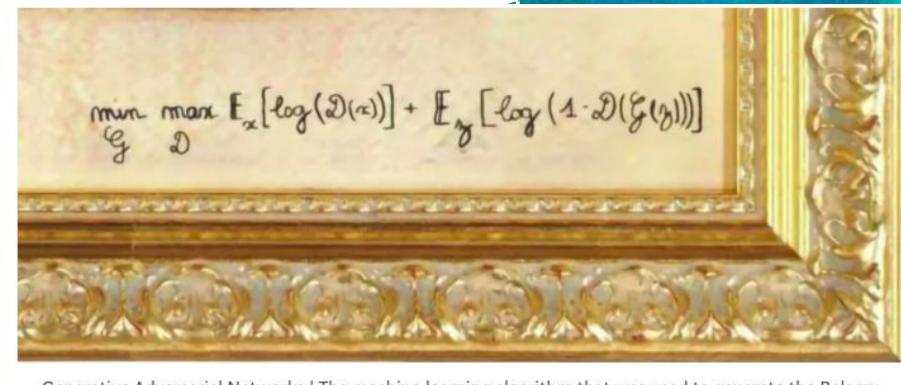


Picture | Courtesy of artist group Obvious | [3]





Picture | Courtesy of artist group Obvious | [3]



Generative Adversarial Networks | The machine learning algorithm that was used to generate the Belamy portrait [1]

# Machine Learning Generated Artwork Auctions Off for \$ 432,500

Far from being the sole creation of AI, portrait of "Edmond de Belamy" was the result of months of work using machine learning



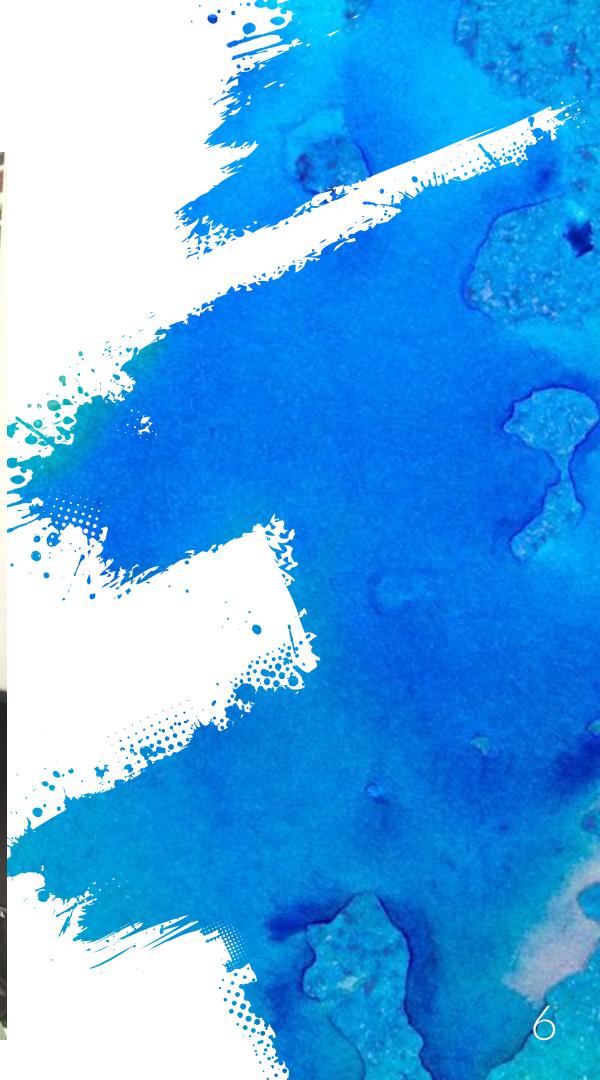
Roberto Iriondo [Follow](#)

Oct 25, 2018 · 6 min read ★

*October 25, 2018 by [Roberto Iriondo](#)*

# Methodology

# 1. Start with portrait image

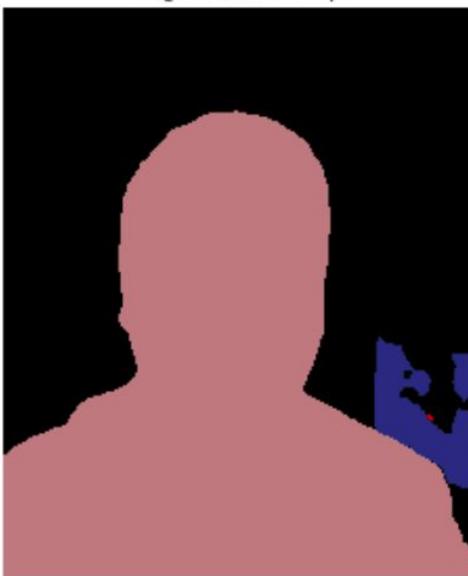


## 2. Create Semantic Segmented binary mask

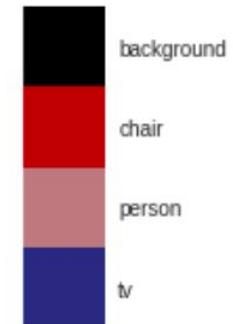
input image



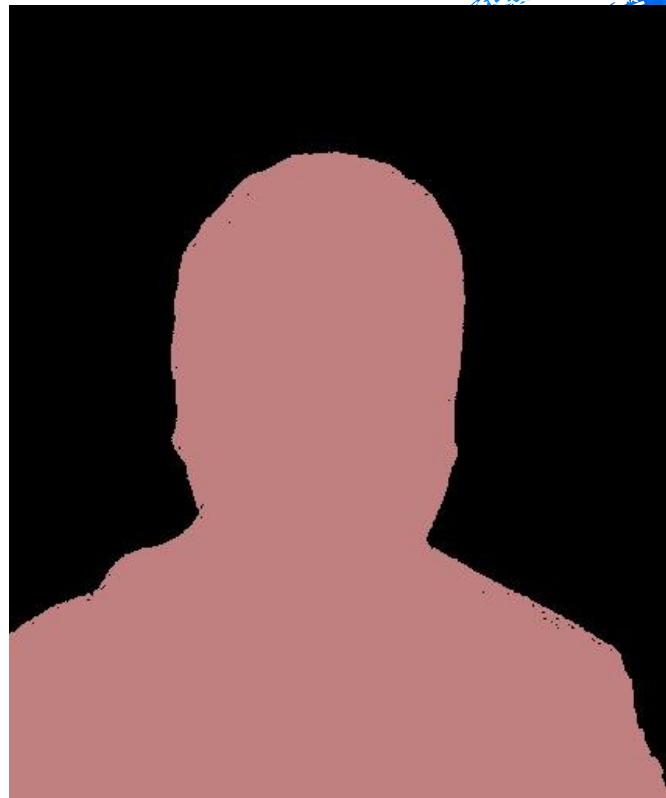
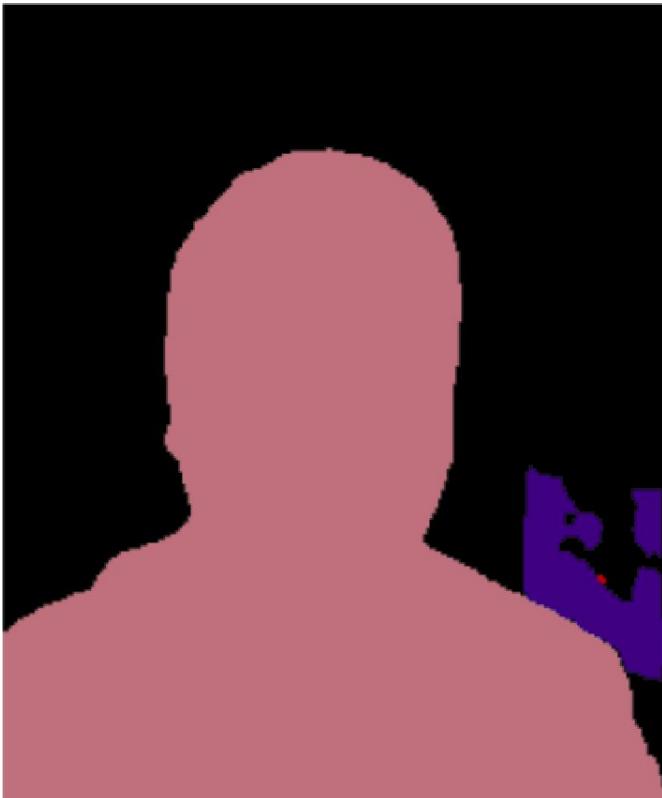
segmentation map



segmentation overlay



### 3. Edit binary mask to focus only on person



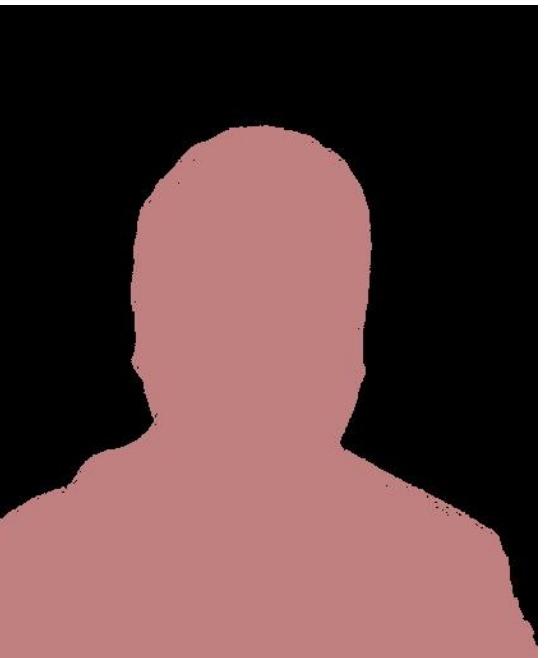
## 4. Remove background



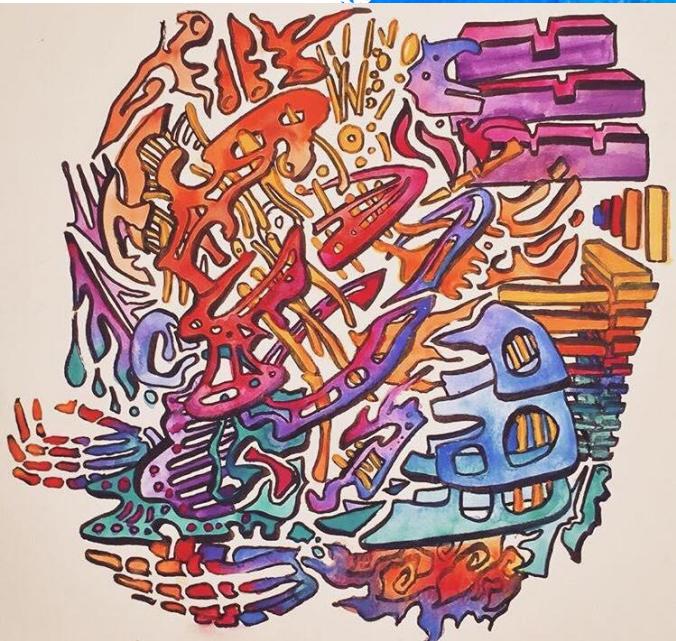
## 5. Run Semantic Segmented Neural Transfer



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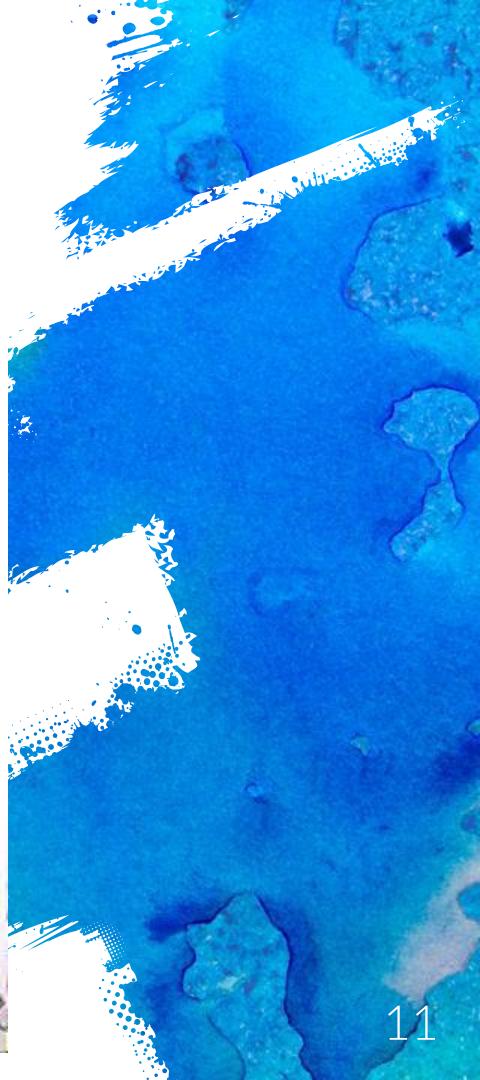


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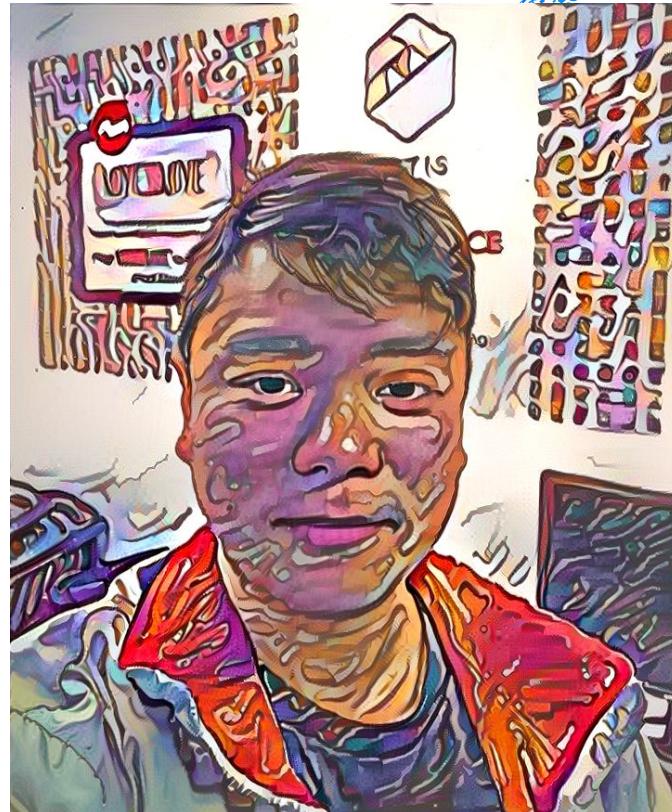


# Model output

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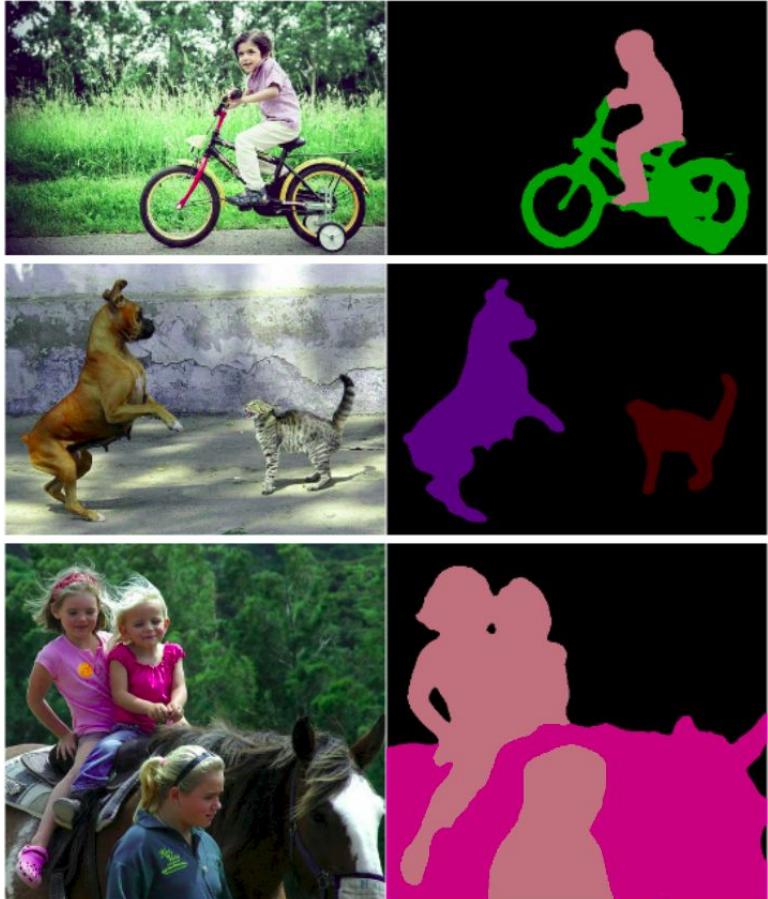


# Neural Style Transfer with and without binary mask - comparison



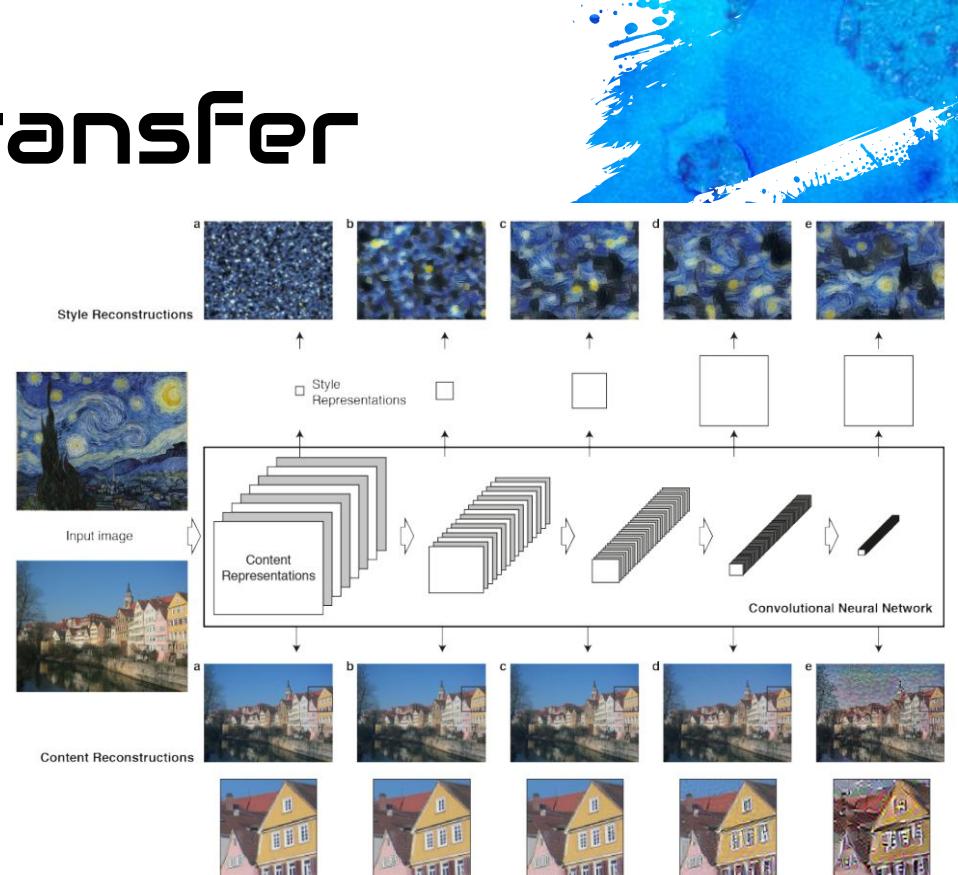
# DeepLab

- ❖ A state-of-art deep learning model for semantic image segmentation
- ❖ Assigns labels (e.g., person, dog, cat and so on) to every pixel in the input image
- ❖ Uses Convolutional Neural Networks trained on large number of images



# Neural Style Transfer

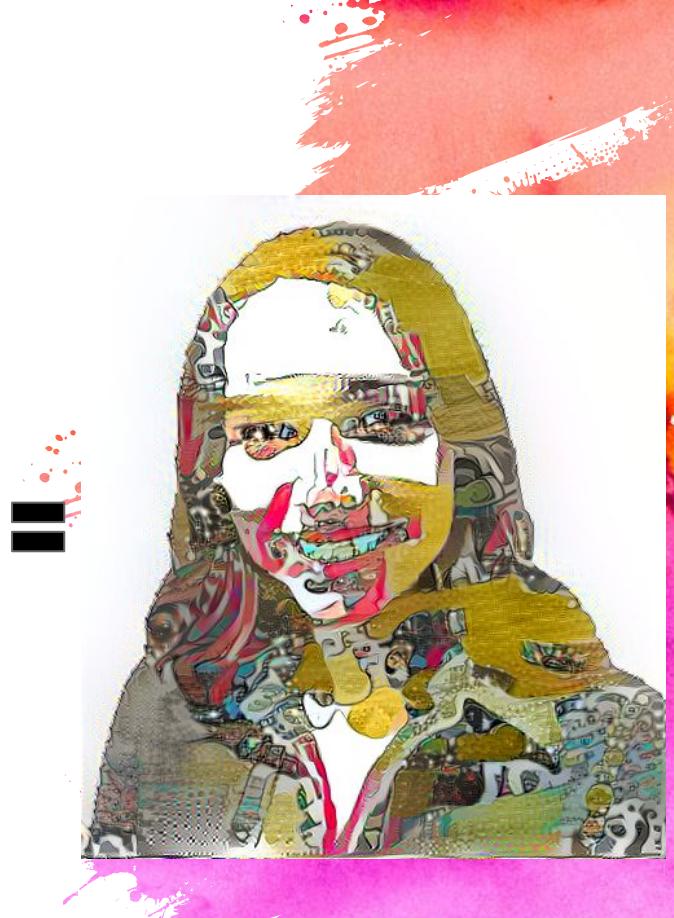
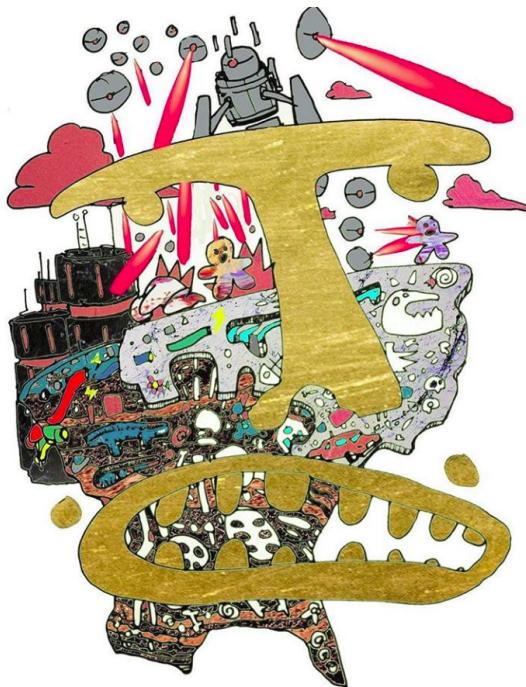
- ❖ Uses Convolutional Neural Networks to find correlations between the two input images
- ❖ Minimizes a loss function at each layer
- ❖ Function takes into account how close the content and style of the new image is with content and style images inputted



$$\mathcal{L}_{total}(\vec{p}, \vec{a}, \vec{x}) = \alpha \mathcal{L}_{content}(\vec{p}, \vec{x}) + \beta \mathcal{L}_{style}(\vec{a}, \vec{x})$$

# More Results



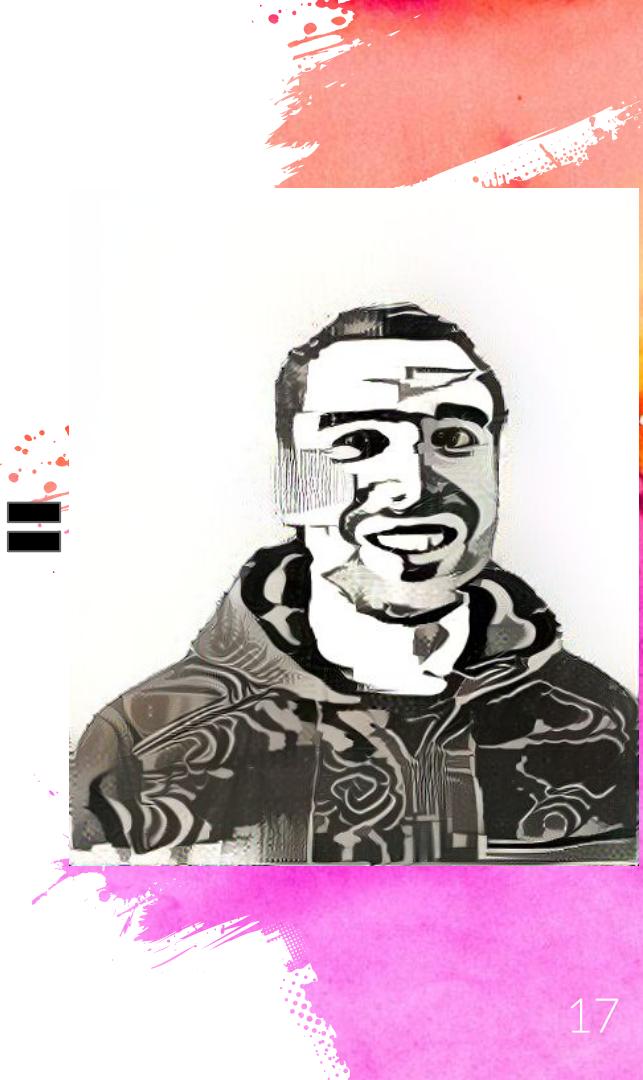


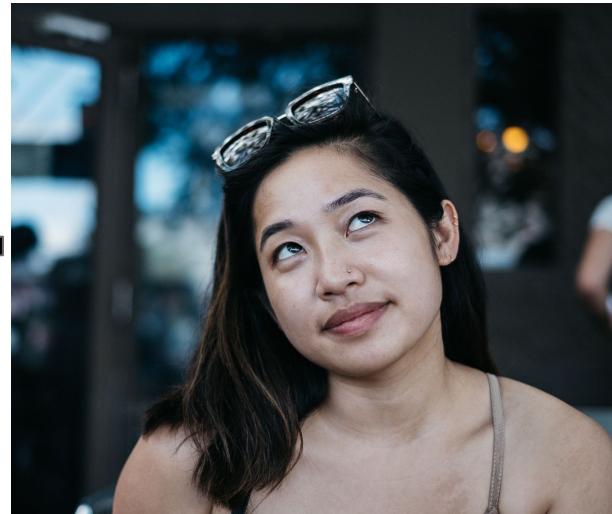


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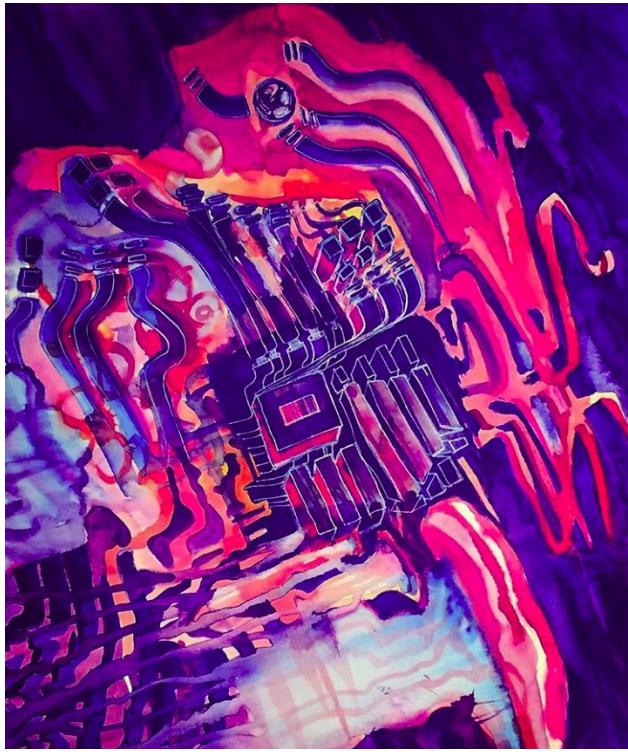






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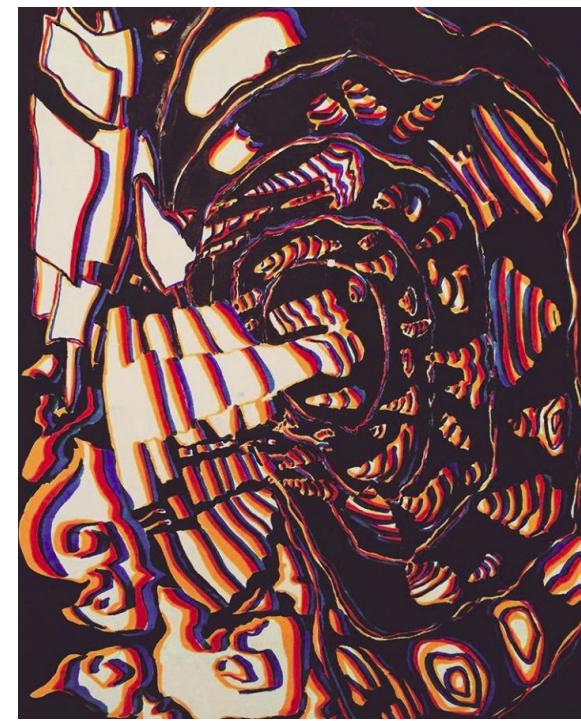


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*“Will artificial intelligence  
be the artist of tomorrow?”*

*I would be tempted to  
answer:*

*“Is the camera the artist  
of today ?”*

*-Obvious*

# Thank You!

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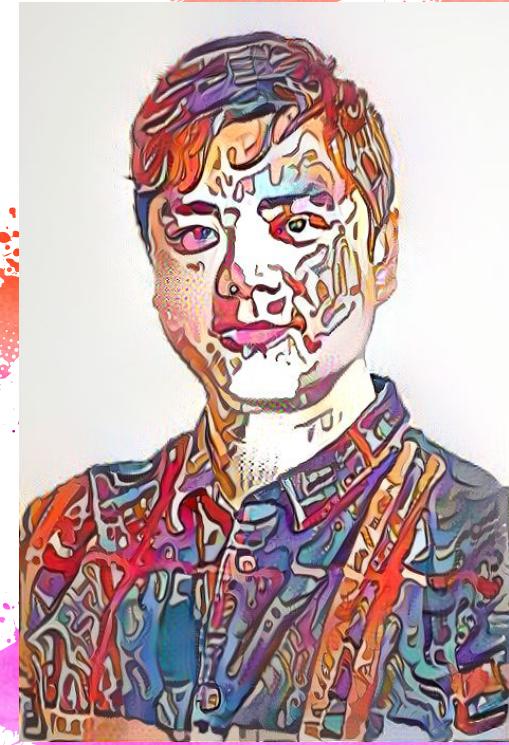




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