# **Team Members:**

* Cole Fredrick (Project Manager)
* Joelle Bailey
* Noah Telfer

# **Project Summary:**

The increased prevalence and availability of AI-generated images and art have impacted the way content creation across platforms is viewed with individual artists and content creators having to compete with the influx of generated art. Many platforms have sought to ban or label AI-generated art to level the playing field. This project seeks to create an option for these communities to differentiate between AI-generated content and human-made art to help prevent fraud and protect these creators.

# **Project Details:**

**Selected Datasets**

For this project the team was not able to find a labeled dataset for this specific project. Therefore the team will be creating and labeling its own data sets. Because the project is based on a binary classifier labeling the data sets is expected to be a feasible challenge. Because the field of art is so large the team will only be focusing on the painting artstyle. To collect the data the team will use two approaches based on the classifier. To collect the AI generated data the team will use the Stable Diffusion AI to generate the data. To collect the human created images the team will be using a group of paintings collected from the GANGogh project (rkjones4).

**Training Methods**

The proposed model for this project is to use a support vector machine for binary classification (Sklearn.svm.SVC) of either (1) AI-generated art or (0) human-made art. Since the computational power needed for the training of such a complex collection of data points exceeds what is reasonable on an individual personal machine, the team has selected to train on Google Colab by implementing batch processing.

**Evaluation Plans**

The first portion of the time allotted for the project will be focused on developing and creating a dataset of clear classical & or landscape paintings. As mentioned above we will be primarily using Stable Diffusion and AI Art generation software to get the bulk of our data set. The dataset & code will be stored in both a Google Drive Repository so that way we can easily mount onto Google Colab (which will act as our primary code environment).

Secondly, the team will focus on implementing the SVC solution proposed with a split dataset for training and testing. Once a viable model is created, further testing with unlabelled data could further guide the model creation. This would allow for the integration of this model with the online artspace, and tie back to the proposed impacted communities. The deadline for this project is December 15th.

# **Projections & Achievable Outcomes**

* This is a description of our current wants and needs of this project and the expectations of outputs/deliverables/features that we will create.

1. At a bare minimum the model will have a binary classification output that will allow the user to see that an input image of a painting is described as such: ( 1: AI\_GENERATED, 0: HAND\_DRAWN)
2. Given the above is completed within the timeframe, the team would like to implement a more stylistic feature that would be able to include an extra level of classification complexity which includes but is not limited to:

* The artist who developed the painting
* The style/painting type.

# **Team responsibilities:**

## **Cole Fredrick (Project Manager):**

* + Will handle the initial data collection that is required for the data sets & making the dataset usable for the model.Cole will also be in charge of scheduling meetings and organizing the different components of the project.

## **Joelle Bailey:**

## Will be in charge of creating a convolution neural network to classify AI made art vs human made art.

## **Noah Telfer:**

## Will be in charge of the creation of a SVC model to classify AI made art vs human made art.

# **References:**

1. rkjones4, “RKJONES4/gangogh: Using Gans to create art,” *GitHub*. [Online]. Available: https://github.com/rkjones4/GANGogh. [Accessed: 11-Nov-2022].
2. “Sklearn.svm.SVC,” *scikit*. [Online]. Available: https://scikit-learn.org/stable/modules/generated/sklearn.svm.SVC.html. [Accessed: 11-Nov-2022].