Final Capstone Proposal

1. What is the problem you are attempting to solve?

In this final capstone project, I will try to build and optimize a model that can recognize the artist of a painting by looking the colors used and the geometric patterns inside the paintings.

1. How is your solution valuable?

Art, through many forms, is the highest way of expressing human emotions and mind. The ability to find resonance and understanding in seemingly random expressions of imagination set us apart from all other beings. No two pieces of art are the same, yet each of them carries traces of something unique about their author/artist. At the same time, computation, another brilliant creation of human minds, has helped us every step in the progress of civilization. Human comprehend and differentiate art by finding the emotion connections or maybe by recognizing the fascinating skills reflected by the art pieces, how does an emotionless machine understand art, can a computation model identify who the genius is behind the painting?

1. What is your data source and how will you access it?

I will try to scrape data from websites, as well as other data sources (available datasets), and organize them on my local computer.

1. What techniques from the course do you anticipate using?

I will connect all the things I learned from this course together, from EDA (data visualization, data analysis), data preparation (missing data, feature reduction, etc.), to unsupervised and supervised learning (clustering, PCA, LDA, and mostly different convnets for supervised learning, scoring models, etc)

1. What do you anticipate to be the biggest challenge you’ll face?
2. Class imbalance between artists
3. Computation efficiency, as I’m working with a lot of images
4. Fine tuning my model to find the balance between efficiency and accuracy.