



Babak Saleh, Kanako Abe and Ahmed Elgammal “Knowledge Discovery of Artistic Influences: A Metric Learning Approach” The Fifth International Conference on Computational Creativity, ICCV 2014.

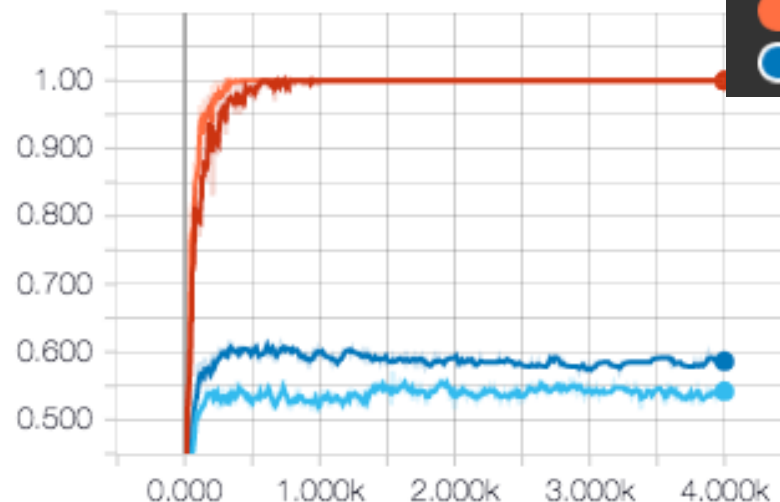
- Large Margin Nearest Neighbors
- Boost Metric

Premise:

- Use transfer learning to classify artists with examples of their paintings
- Use the final layer features generated to find similar pairs of paintings, which might indicate influence.

Data: 29 artists, 50 paintings each
Model: tensorflow mobilenet

accuracy_1

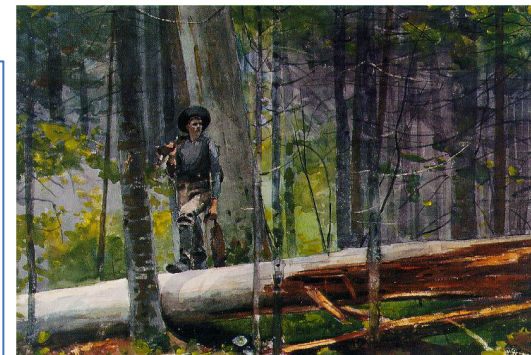


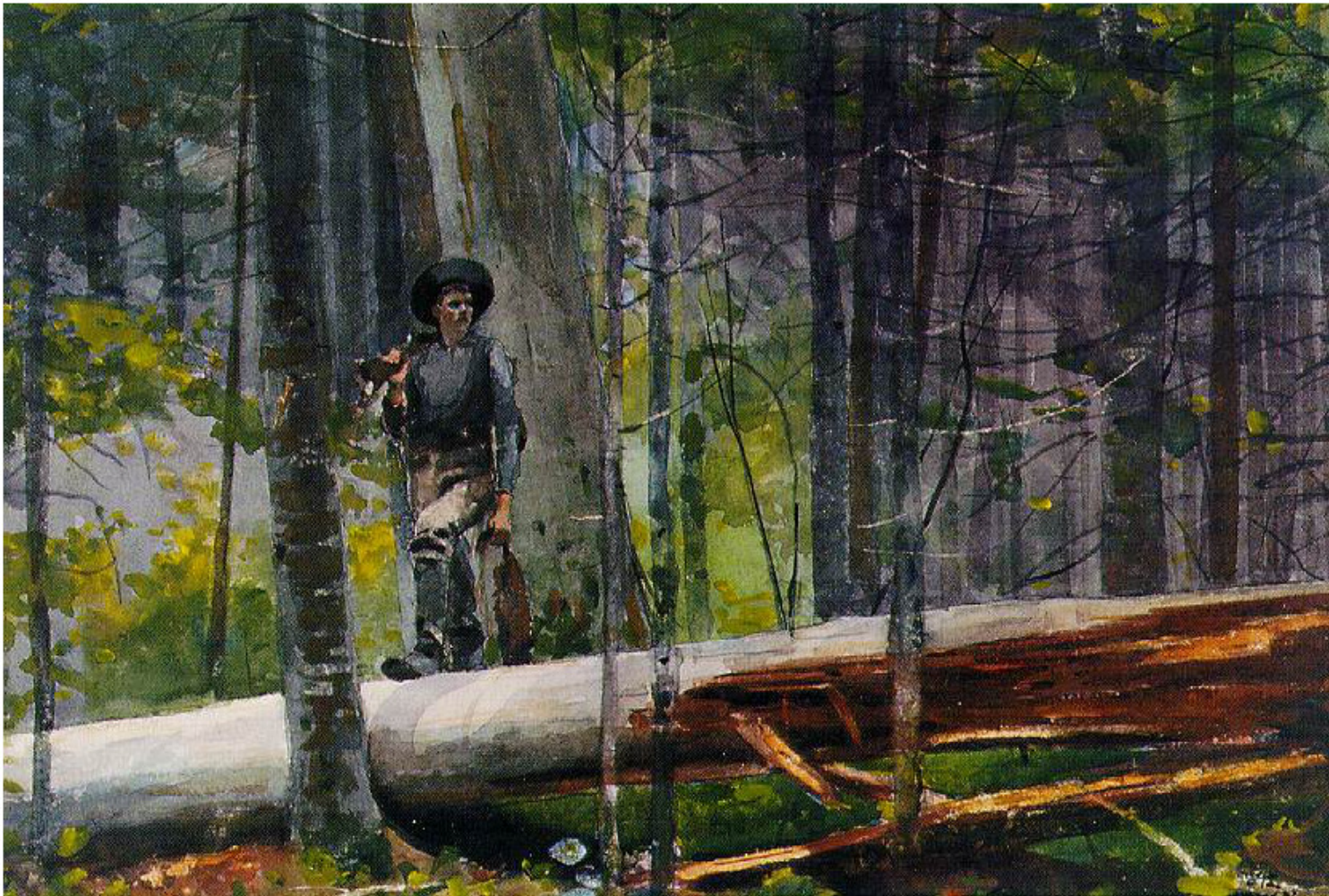
final_tr	Name	ops/biases/summaries	Smoothed	Value
	mobilenet_0.50_224/train	7.000e-3	0.9999	1.000
	mobilenet_0.50_224/validation	7.000e-3	0.5275	0.5283
	mobilenet_1.0_224/train	8.000e-3	1.000	1.000
	mobilenet_1.0_224/validation	8.000e-3	0.5885	0.5849

Algorithm:

Pick 1 artist:
for each of his/her paintings (50):
for all other painter's paintings:
return painting with the most similar final layer features

Resulting pairs are candidates for artistic influence





Homer: adirondacks

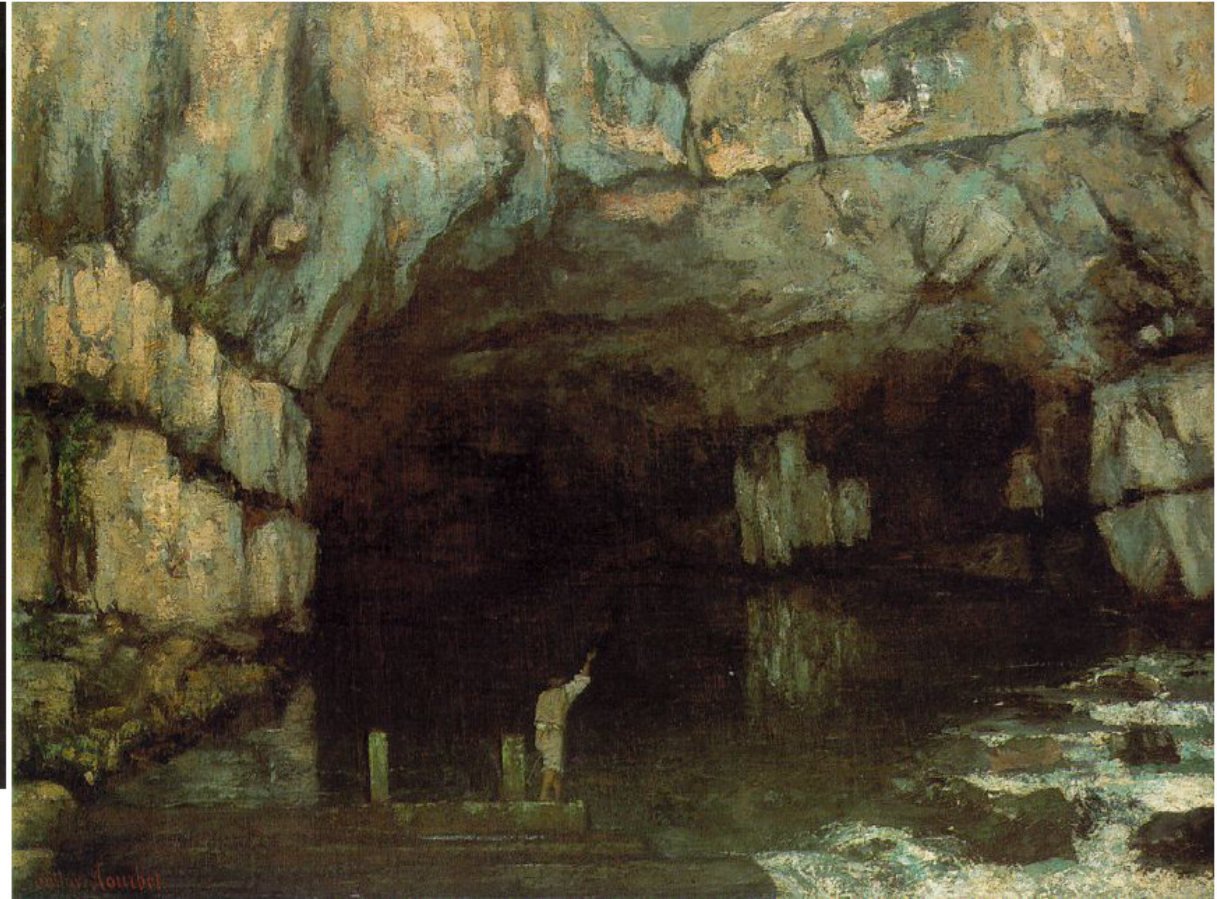


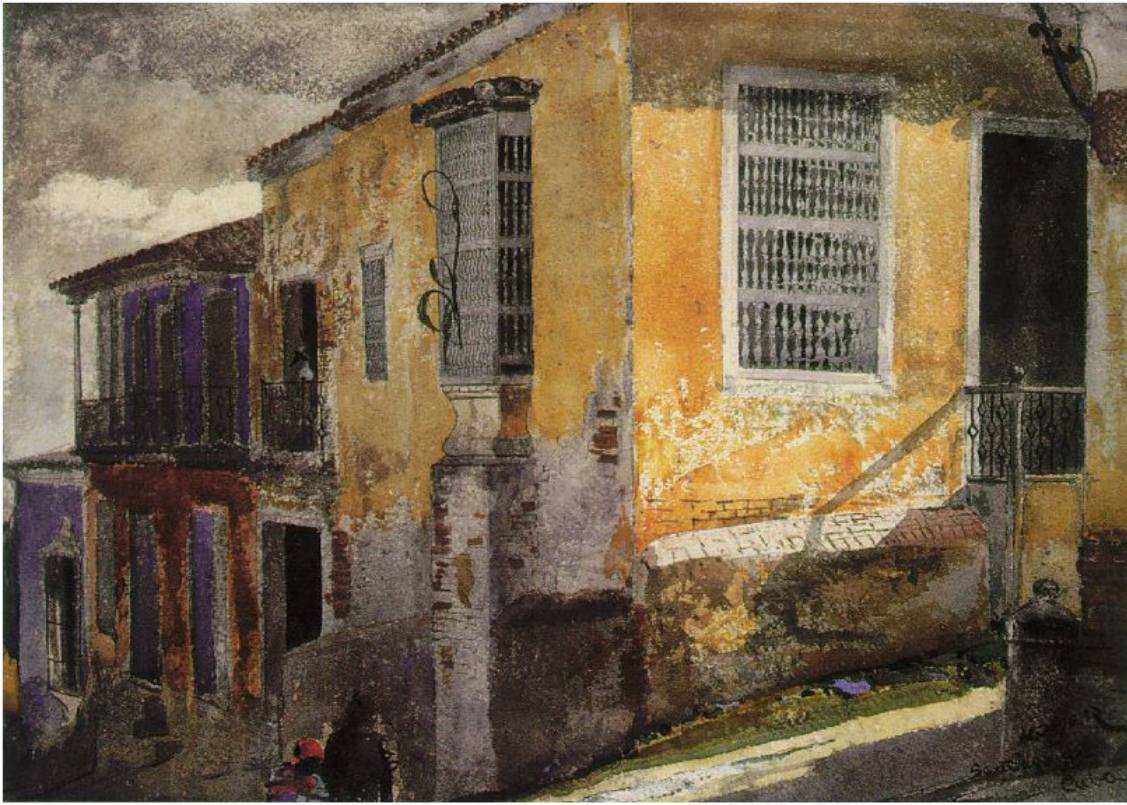
Van Gogh: poplar trees

Homer: cape trinity



Courbet: source





Homer: street corner



Vermeer: delft st

