16720 - Final Project Proposal: Automated Painting Style/Movement Classification

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1 Abstract

The idea for the project is to classify input images of art by their style or movement. We propose to implement an image pipeline that will process a number of training images to extract key features, regions, and styles from an image, and then further abstract these into representations of styles and movements. Relevant features will likely in scale vary by style, from brushstrokes to large-scale aesthetics.

A number of existing databases will help us by providing a lot of data for our project.
The online database at http://www.wga.hu/ contains over 33,000 such images from Western Europe from 1000 - 1900. Additionally, we have seen the database at http://www.artchive.com/ used in one of the papers in our related work section.

2 Milestones

03/06 -> Acquire data: Collection of art images with style/movement labels
03/28 -> Explore and implement a set of approaches based on related work
04/09 -> Test various approaches individually
04/30 -> Combine and corroborate different approaches for a best guess

3 Related Work

[1] *Towards Automated Classification of Fine Art Painting Style: A Comparative Study*, Ravneet Singh Arora, Ahmed Elgammal, Department of Computer Science,Rutgers University, NJ, USA, http://www.cs.rutgers.edu/~elgammal/pub/ICPR12_Arora.pdf

[2] *An Early Framework for Determining Artistic Influence,* Kanako Abe, Babak Saleh, and Ahmed Elgammal, Department of Computer Science, Rutgers University, http://download.springer.com/static/pdf/448/chp%253A10.1007%252F978-3-642-41190-8_22.pdf?auth66=1392229978_4cc869482afd80d939583560c6f82a8a&ext=.pdf

[3] *Impressionism, expressionism, surrealism: Automated recognition of painters and schools of art*, Lior Shamir et. al., ACM Transactions on Applied Perception (TAP) TAP Homepage archive, Volume 7 Issue 2