

Can we date an artist’s work from catalogue photographs?

Alexander D. Brown, Gareth L. Roderick, Hannah M. Dee, Lorna M. Hughes

adb9@aber.ac.uk

Abstract

Computer vision has addressed many problems in art, but has not yet looked in detail at the way artistic style can develop and evolve over the course of an artist’s career. In this paper we take a computational approach to modelling stylistic change in the body of work amassed by Sir John Kyffin Williams, a nationally renowned and prolific Welsh artist. Using images gathered from catalogues and online sources, we use a leave-one-out methodology to classify paintings by year; despite the variation in image source, size, and quality we are able to obtain significant correlations between predicted year and actual year, and we are able to guess the age of the painting within 15 years, for around 70% of our dataset. We also investigate the incorporation of expert knowledge within this framework by considering a subset of paintings chosen as exemplars by a scholar familiar with Williams’ work.

Background

Introduction

The Image Dataset

Our image dataset consisted of 325 paintings, including associated metadata for each painting. This metadata includes title; year or year range, for those

works which the actual date is unknown but can be reasonably estimated by curators; genre; original painting size; painting material and image size.

Because many of these images were collected from catalogue photographs there was no control over the lighting conditions in which they were captured nor the resolution of these images.

Methodology

Colour Features

Texture Features

Year Classification Results

Exemplars

Conclusions