

Abstract - Robust Recognition and Identification of Paintings using Computer Vision Techniques

Conor Broderick

This report details the research, theory, development, testing, and results of a mobile computer vision application capable of recognising and identifying a known set of paintings.

Art galleries and museums tend to rely on cumbersome paper based brochures, human tour guides, and/or audio tapes in order to deliver information about the artwork hanging on their walls to its patrons. An alternative approach to this problem is presented in this report in the form of a mobile application capable of recognising and identifying paintings whereby a user looking at paintings in an art gallery can obtain more information about them by taking out their smartphone and simply taking a picture of it. In this report, an investigation is carried out into the available literature surrounding this problem and a technique is developed in order to try and tackle it in a way without using any external computational machines for the required image processing.

The final results of the application showed a 58.24% success rate in correctly matching paintings extracted from images to their known reference counterparts hence demonstrating that computer vision could be applied in this case in order to serve as an alternative to traditional museum guides.