Understanding Collections of Images

COS 521 Final Project Report

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January 10, 2014

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Introduction

1.1 Abstract

This report explores a variety of image properties that make it possible to understand vast collections of images better. In particular, we look at how image color, saturation, sharpness, and detail can be extracted and compared between images using methods such as Fsat Fourier Tranform (FFT) and SVD (Singular Value Decomposition). We seek to understand how the theoretical underpinnings of these two algorithms affect the way the images are created in the first place. Ultimately, we provide a way of decomposing the image into mathematical notation (a descriptor) that differentiates well between a collection of images.

1.2 Background Work

Chapter 2

Methods

2.1 Data

2.2 Implementation

2.3 Color Analysis

2.4 Fast Fourier Transform

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Chapter 3

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Chapter 4

Suggestions for Further Work