

Perlustration on Image Processing under Free Hand Sketch Based Image Retrieval

S. Amarnadh^{1,*}, P.V.G.D. Prasad Reddy² and N.V.E.S. Murthy³

¹Department of I.T, G.I.T, GITAM Deemed to be University, Visakhapatnam, India

²Department of CS&SE, Andhra University, Visakhapatnam, India

³Department of Maths, Andhra University, Visakhapatnam, India

Abstract

In general information retrieval has taken vast diversions in visualizing the content presentation for the users who generates the queries for the system, where it includes the concept of content based Image Retrieval to provide the results in a better way by adapting the approaches like Text Based Image Retrieval(TBIR) and Sketch Based Image Retrieval(SBIR). Nowadays the concept of search engines relies on deeper vision of content and perhaps interested in providing the results effectively by employing several algorithms from the areas like machine learning, neural networks, Fuzzy Logic and deep learning concept. As the digital world is spreading its dimensions, the supporting environments have been diversified from traditional computers to the mobile based environments. The idea of this paper is to present the survey on sketch based image retrieval adapting deep learning concept on the mobile platforms, by presenting various methodologies and techniques.

Keywords: IR, TBIR, SBIR, Deep Learning, Neural Networks, Machine Learning, Fuzzy Logic.

Received on 07 April 2019, accepted on 10 June 2019, published on 17 June 2019

Copyright © 2019 S. Amarnadh *et al.*, licensed to EAI. This is an open access article distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/3.0/>), which permits unlimited use, distribution and reproduction in any medium so long as the original work is properly cited.

doi: 10.4108/_____

* Corresponding author: amarnadh07@gmail.com

1. Introduction

The digital media over the internet is taking new diversions with respect to the user requirements on demand basis, hence lead to development of latest environments in devices such as tabs, mobile devices has come into existence. The generation of user interfaces over these devices has increased the flexibility of usage even for a naive user. In earlier days the user interfaces were designed with respect to the conventional use of traditional desktops or laptops. The key idea of digital technology is to simplify the design of user interface for flexible usage and minimize the design of the device for the portability, which leads to the concept of wherever you go access it (WUGA) systems. The concept of drawing based image retrieval has come into existence with respect to the changing requirements of the interface designs, which includes the techniques of content based

image retrieval namely Sketch based technique which accepts input in the form of free hand sketches and performs retrieval process from the millions of image database using the techniques and methods like deep convolutional neural networks, SHELO and SHOG.

2. Related Work

Li Liu *et al.*[1], has projected Deep Sketch Hashing (DSH), technique which uses three convolutional neural networks^[13] (CNN) to encode normal images, free-hand sketches, and the sketch-tokens which act as a bridges to provide simplicity in sketch-image geometric distortion. It includes: Semi heterogeneous Deep Architecture used to ease the geometric distortion among normal and sketch images. The “Sketch tokens” are referred as a set of edge structures identified from normal images, with the help of supervised information in the format of hand-drawn

