Analytical Data Mining
Project Proposal

Image Classification in Real-World Scenarios

Image Classification has been an important aspect in the field of Computer Vision. Several applications of computer vision have been developed in different fields such as agriculture - for detecting weeds in plantlife, healthcare - detecting different types of tumors and cancers and banking - relating to biometric security.

Image Recognition in real-world scenarios has been a hard unsolved problem that needs to be developed for several related projects (like self-driving cars) to work efficiently and safely.

For this project, we will be predicting the street numbers from real-world image data using Google's SVHN (Street View House Number) dataset. The dataset contains over 600,000 digit images and comes with an unsolved hard problem on recognition of digits and numbers in their natural state. The dataset contains images from Google's Street View.

We will be implementing this problem using Convolutional Neural Networks (CNNs) applied for visual imagery worked on by the Keras library and the Tensorflow platform. We try to improve its performance and accuracy using several methods and experiments for a better result.

Evaluation and testing of the project will be done by getting a suitable pass percentage or accuracy. We will also be testing the project using real-life current images and checking it's prediction based on them.

We hope to accomplish a working model that can take images taken in the real world as inputs and provide accurate and precise predictions for its output.

References : Datasets - http://deeplearning.net/datasets/
http://ufldl.stanford.edu/housenumbers/