CS691 Final Project Proposal

Liang Xu
Department of Electrical and Computer Engineering
Virginia Commonwealth University
Richmond, Virginia
Email: xul4@vcu.edu

***Abstract*—During the Ramhack this year (2016), elephant insurence proposed one of the channenges called sub-images. The goal of the challenge is to match a sub image to a big image in a image pool. The sub image is a small part of the big image. Example of the source image is:**

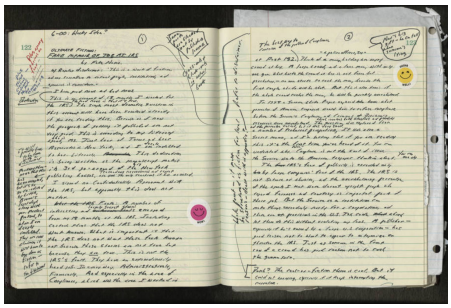

Fig. 1. Source Image

Example of the target image is:

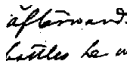

Fig. 2. Target Image

During the challenge we use the eeathre matching algorithm with FLANN(Fast Approximate Nearest Neighbor Search Library) in OpenCV. OpenCV (Open Source Computer Vision Library: http://opencv.org) is an open-source BSD-licensed library that includes several hundreds of computer vision algorithms. The final challenge is to match 75 pictures. Our algorithm took around 2 hours to finish the challenge which takes too much time by using the serial computation (CPU).

Fig. 3. Example

So for this final project, I am thinking to continue work on the challenge using more advanced computation method, for example using GPU to parallel the computation.

CUDA and open-CV will be used, and more detailed comparison will be proposed in the future investigation.

***Index Terms*—GPU, OPENCV, Picture matching**