Minor thesis document.

KTH Royal Institute of Technology

Company:*Vion Labs AB, Stockholm*

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Contents

1 Information

- Name : Nayan Singh Ravindra

- Track : Embedded Systems

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- Major thesis title - GPU cluster based brand logo detector in input video stream.

2 Internship

My internship work for the partial fulfillment of requirements for Master degree will be carried in a digital media technology based startup named Vion Labs AB, Stockholm. My internship work at Vion labs will be focusing on development of automatic brand logo detector in input video stream using cluster of graphical processing units.

Brand logo detector will be able to detect famous logos automatically from the input video stream and also will calculate effectiveness of the logos. Effectiveness measure of the logo will be measured based on position of the logo, size of the logo, visibility time and number of occurrences of the logo in an particular video stream.This parameter will assist the advertisement clip producers and marketing analysts to determine the effectiveness of the logo placement in video clip and determine the influence of logos in the video.

Automatic brand logo detector tool helps the embedded marketing analyst to place the logos in the process of placing brand logos in movies, ad clips and other videos.
 Key contact persons at Vion Labs is

- Contact person: Mr. Arash Pendari (CEO)
 Email: arash@vionlabs.com

- Contact person: Mr. Chang Gao
 Email: chang@vionlabs.com

- Contact person: Mr. Abubakrelsedik
 Email: akarali@vionlabs.com

3 Major Thesis

Major thesis is closely coupled with the internship, it deals with the study of various algorithms related to image recognition, pattern recognition in the context of brand logo

detection. It uses qualitative approach of research to determine optimal algorithm from past research work for the task of brand logo detection in videos.

Further, research is carried out about accelerating detector on cluster of graphical processing units. It also deals with developing an effectiveness metric for detected brand logos in the video stream. The main purpose of master thesis is to determine the effectiveness of detected brand logo in movies and advertisement clips. Effectiveness measure is determined by the visibility time, position and size of the logos in the video stream. This information can be used by the producers to determine effective product placements in the video stream.

Key person contact information is as follows:

Key person	email information	Role
Professor Dr. Zhonghai Lu	zhonghai@kth.se	Examiner and Supervisor (KTH)
Mr.Abubakrelsedik	akarali@vionlabs.com	Supervisor (Vion Labs)
Mr. Chang Gao	chang@vionlabs.com	Supervisor (Vion Labs)

4 I & E Thesis

I am interested in following topics of I & E, such as marketing, business plan development and finance. I have interest in developing a business idea closely related to the product developed as part of my master thesis work. I am interested in investigating business prospects of the developed product. And also to perform research about current market situation and developments in the product domain.

I & E thesis is highly related with the master thesis and internship topic. I & E thesis will be focusing on developing and validating various business cases around the idea of brand logo detection in video stream. Most favorable and feasible business case will be opted for further research work. Feasibility of a business case will be evaluated based on the technical feasibility, lean strategy and lucrative opportunity it can offer.

5 Time plan

Time plan for this spring is as shown in the table below.

Item	Start date	End date
Internship and Master thesis	15/Jan/2015	30/June/2015
Minor Thesis	01/Mar/2015	15/May/2015