BLOOD CELL RECOGNIZER AND COUNTER

Project Proposal – Group 13

Project Supervisor

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Introduction

Blood count reports have always been really crucial in diagnosing certain deceases. At this point of time in Sri Lanka, blood counts are done manually in most of the cases in both government and private sector laboratories. Although the government hospitals provide the facilities to get a blood count report for free of charge, they are unable to meet the demand. In case of a pandemic outbreak of a decease, which needs blood count reports for diagnosing, the current facilities would be unable to manage the situation.

There are blood counting machines and software solutions, and some of them are used in Sri Lanka. But the cost of these solutions is really high that the government cannot afford each and every hospital in the isle a blood counting machine. Even in the private sector, these machines are used very rarely.

The motive of the project is to develop an open source software based solution, which can automate the blood counting process, with improved efficiency.

Objective

To develop software application that can recognize and count blood cells and create a standard blood count report, taking a microscopic image as input, using the techniques of image processing, computer vision and artificial intelligence.

Come up with a design, where the application can be extended to identifying other biological cells (cancer cells for example) and other objects in time to come.

Functionality

The main functionality of the software would be to accept a digital image of the blood cells with high magnification, and then recognize the different types of blood cells, count them and provide a standard blood count report.

In addition, we hope to implement the application as a web service and a simple web service client, so that the remote users can upload images and get the blood count on line.

Technologies

We hope to do a technology survey to find out the best suited technologies and programming languages.

Extensions

The application can be extended to

- Recognize other types of biological cells
- Provide a simple medical diagnostic with the percentage of accuracy

Tentative Time Line