INFORMATICS INSTITUTE OF TECHNOLOGY

In collaboration with

University of Westminster, UK

Recognizing Sinhala Paragraphs Using Artificial Neural Networks

By

2014041 | Dinithi Navodya Wagarachchi

Supervised by

Mr. Sudharshana Welihinda

Submitted in partial fulfilment of the requirements for the

BEng. (Hons) Software Engineering Degree

Department of Computing

May 2018

Abstract

Recognizing and detection objects in an image, is an important task in image processing. It observes image and predicts the object which is in the image. Even though this technology has been spreader all over the world, and has covered most of the fields, still there are many failures when it comes to recognize letters or complicated images which contains multiple objects. Nowadays recognizing letters has become very prominent task as the development of the technology. Though it gives successful results in some languages, there exists some languages, which doesn't have fully stabled systems to recognize those native language letters, as those are much complicated in shape and very much similar to each other.

The proposed "character recognizer" application recognized Sinhala letter charters from images which are sent from a mobile application. This application mainly focuses on recognizing characters in an efficient way in order to give results with a better accuracy.

This project uses image processing and neural networks in order to build this character recognition system. Once the user gets the result he/she can save, edit, google or translate those results as he requires.

Keywords: Image processing, Artificial Neural Networks, Backpropagation algorithm, Feedforward Algorithm