

Informatics Institute of Technology

In Collaboration with

University of Westminster (UOW)

Nerve Damaging Prediction System using Image Processing Approach

A dissertation by

Lakshan Sandakelum (2015104) W1583028

Supervised by

Mrs. Sulochana Rupasinghe

Submitted in partial fulfilment of the requirements for the BEng (Hons) Software Enginnering degree Department of Computing May 2019

Abstract

Every human wish to live a healthy and happy life. Because of divergent reasons people are starting to suffer various types of pains in different stages of human life. The availability of increasing health devices and equipment have influenced to the medical domain and there are easiest and efficient ways of identifying disease symptoms. To analyse the tests which is related to nerve damages has to be done manually by specialist doctors. The limitation of the specialist doctors who can analyses the test and also the time arrangement of those doctors are very limited. Because of that patients find many difficulties in taking their medicines up to date. This has been aroused as a critical condition in nerve test analysis systems. With the use of new technology, a proper solution to this medical problem was detected and a system has been implemented as the first update. Python is the main language for the image processing process and the image processing is done with Open CV library which is an accurate image processing library exist. As the database MySQL has been used to store the graphs and results for further view of the user. The implemented solution is a web application which can be used in cross platform. The solution meets the answer to all most all the problems that came across in analysing the nerve test and the future enhancements will be revealed and updated with the next versions of the system for the betterment of medical field.

Keywords : Nerve Damaging Prediction, Machine learning, Electromyography, Electroencephalogy, Wavelet graph analysis