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UNIVERSITY OF WESTMINSTER⊞

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Detection of Cardiovascular Subclass disease types using digital ECGs - ECGLabs

Finale thesis by

Sajana Karunanayake

W1761515 / 2019527

Supervised by

Mr. Mithushan Jalangan

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Abstract

The most prevalent illness categories worldwide are those involving the cardiovascular system. Due to numerous factors, it is now a fast-expanding illness type. There are numerous varieties of cardiovascular illness. Heart failure, coronary artery disease, and myocardial infarction are mainly a few of them. In addition to high risk factors including obesity, smoking, and inactivity, researchers are currently discovering novel disease types that are inherited diseases from the family tree.

Currently, it is becoming more difficult to diagnose cardiovascular disorders due to an increase in patients and conditions. Additionally, researchers are now able to create algorithms that use ECGs to diagnose cardiovascular illnesses due to the advancements in machine learning technology. Due to the enormous demand for treatments, these systems are currently being built at an accelerated rate.

For these reasons, the author developed a model and system that identify the chosen disease kinds and predict / detect diseases using digital ECG diagrams, and then they were displayed as a web-based application. By researching on the domain Author abled to discover modern classification techniques that most popular in modern days and build a classification model around that using modern machine learning algorithms and features extraction algorithms.

With the limitation of the resources, time and other factors, Author successfully implemented classification for subclass disease types using various algorithms. As a result with different types of algorithms managed to score more than 83% accuracies in average on all models.

Keywords – ECG, Machine learning, Cardiovascular diseases, Sub class diseases.