

Data Analysis by Machine Learning with Weka from

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Consumer Activity Tracker

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Abstract

Summary of the dissertation *within one page*. Unnumbered chapter headings, as above, are entered using the *Unnumbered 1* paragraph style. The *Unnumbered 1* style automatically starts a new page.

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Note: You are required to submit one extra copy of your title page and Abstract.

It is suggested that the abstract be structured as follows:

- Problem: What you tackled, and why this needed a solution
- Objectives: What you set out to achieve, and how this addressed the problem
- Methodology: How you went about solving the problem
- Achievements: What you managed to achieve, and how far it meets your objectives.

Machine Learning and Data Analytics are being used increasingly; providing insight to the information gathered as part of contemporary life, both in professional and leisure activities.

Fitness, or Activity Trackers are now widely available. They are becoming increasingly sophisticated in their ability to monitor and report on detailed information; for example Heart-Rate, Temperature, Calories burned, Running, cycling, distance travelled. The question this project attempted to answer was to establish if the information we can get from these devices provides any useful information about behaviour other than that of Energy Expenditure. This project set out to use the data from an Activity Tracker and use Data Mining techniques to determine if the data contained relevant information on which to make behaviour predictions either for an individual or multiple subjects. Using an Activity Tracker that was selected for both its monitoring and output capabilities data was collected. Raw data was retrieved and through recognised processes of Data Cleaning and integration was Modelled using Weka Machine Learning software. A predictive Model was produced and interpreted. To support use of this consumer technology, a literature review was carried out. This facilitated validation of the accuracy and possible future utility of consumer Activity Tracker devices.