

Predicting behaviour from Personal Activity Devices with data analytics

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Context and Project Outline

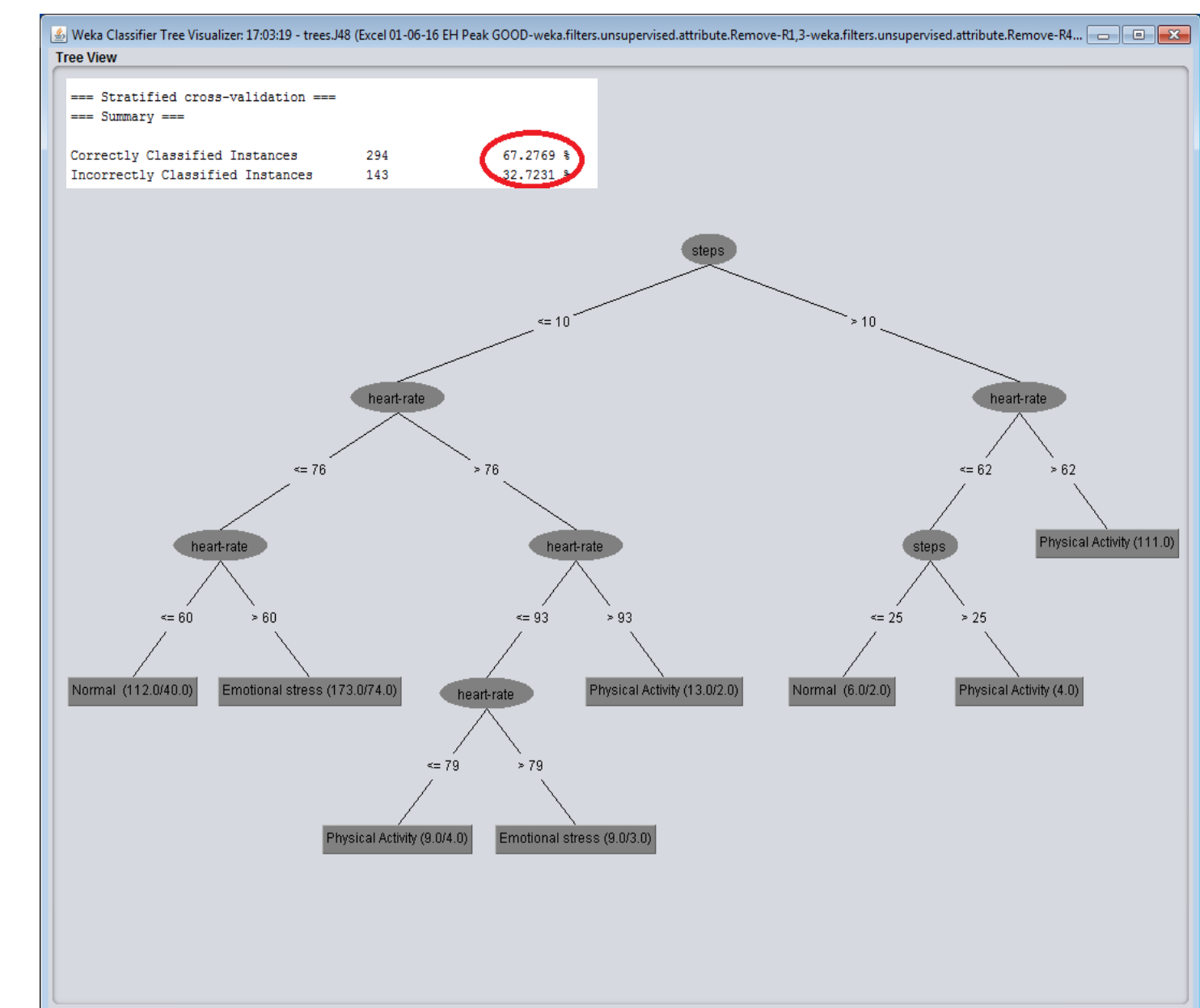
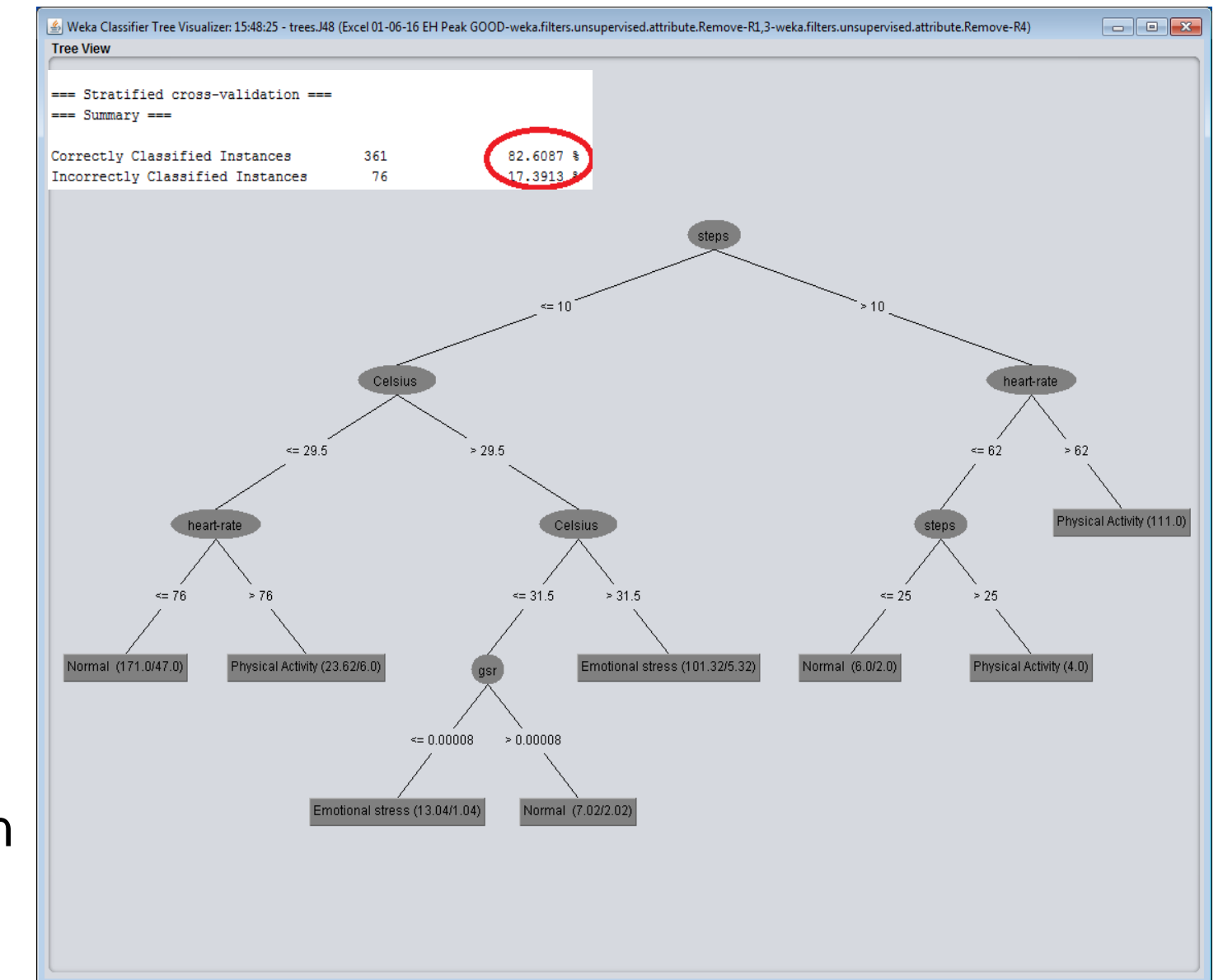
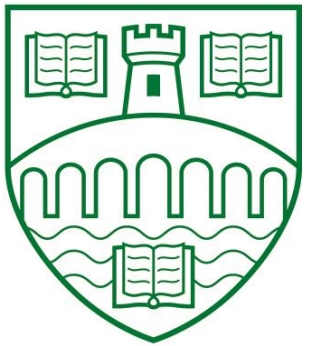
Wearable technology has become ubiquitous. In 2015 the value of the activity tracker device market was worth over \$2 billion. This figure is predicted to top \$5 billion in 2019.

Current technology can offer data capture of features, for example user speed, distance, sleep duration and quality, and also heart rate monitoring, galvanic skin resistance (GSR) and temperature. Professional athletes have used physiological metrics to monitor and improve their performance for some time. As activity tracking has become readily accessible it makes sense to investigate the information it can collect. This project aims to collect and analyse physiological data from Basis Peak and Jawbone UP3 trackers using machine learning techniques

Future Developments

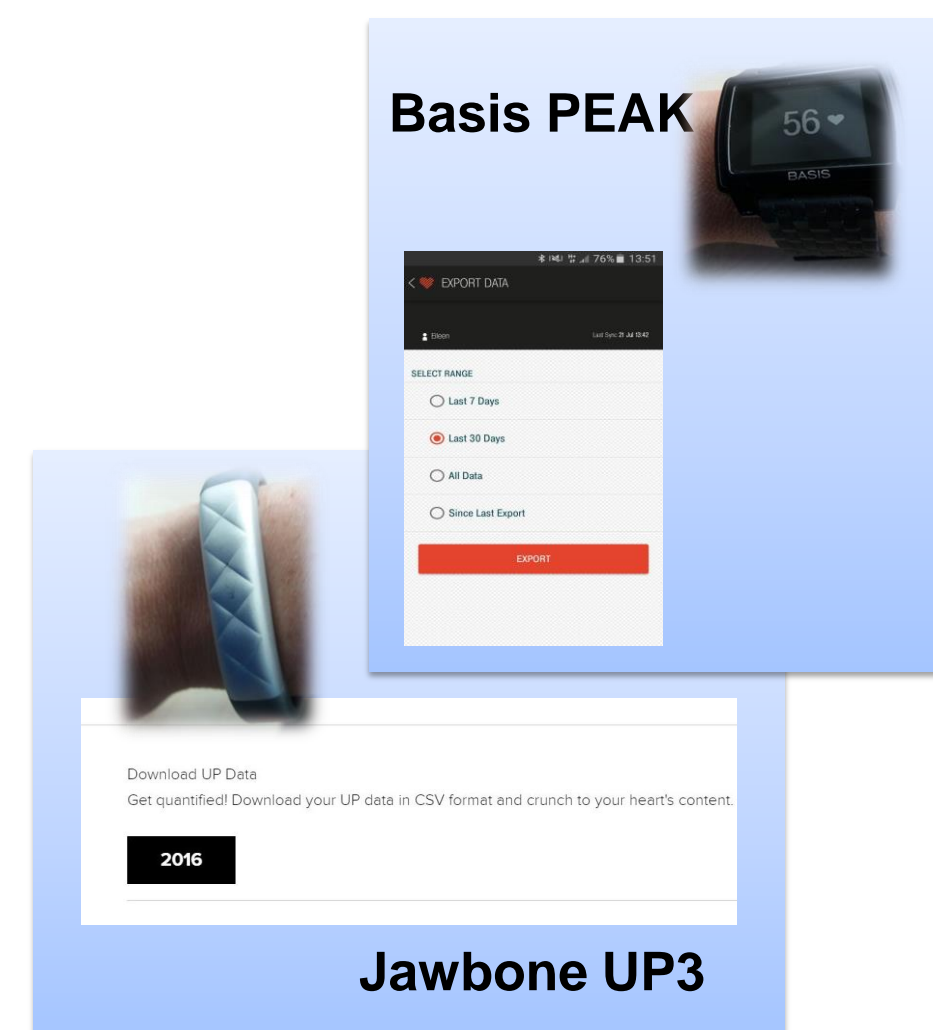
- **Single subject data:**
Prediction of behaviour over a period of time for at risk individuals
- **Multiple subject data:**
More generalised classification of outputs linked to sleep and physical activity

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Design

- To access the raw data from the device manufacturer.
- To clean and present the data as an accurate representation prior to modelling.
- To compare outputs from each device for credibility verification
- To automate data preparation prior to modelling



Technologies:

