"Can data analysis of electricity usage in the home be effective in identifying circumstances in which elderly or disabled residents may require aid"

"The use of data analytics to identify circumstances in which elderly or disabled residents may require aid through changes in electricity usage patterns."

Problem

- Seniors – Disabled
- Might have fallen over – unable to inform – no way to notify

Existing Solutions

- Care homes – Carers – Nurses – Sensors
- Too expensive – small income – pension

My project

Abstract

- Widespread – smart meters – workable electricity data
- Can be mined – for patterns trends – Normal every day data
- Various data mining algorithms
- Anomalies – something is wrong – (*Notify someone*)

Implemetation

Various Data mining algorithms

- Clustering (Kmeans)
- Neural Networks – back propagation – gradient descent
- Linear regression

Project initial VS now

Initial

- One data mining algorithm (Clustering)
- Mine the electricity data
- Notify when an anomaly occurs
- Some parts too simple some too advanced

Now

- Various methods
- Mine the electricity data
- Precision/accuracy measure
- Which one works best?

Coding

- Basics of Kmeans, Linear regression and NN done
- Understood the theory of it all
- Not perfected and complete at the moment

Write up

Part	Word	Total	%
Abstract	300	-	-
Introduction	709	1000	70%
Literature review	576	3000	19%
Methodology	780	1500	52%
Findings/Results	0	500	0%
Analysis	0	3000	0%
Conclusion	0	1000	0%
TOTAL	2065	10000	20.7%

Problems encountered

Code

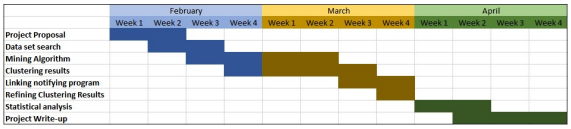
- Dataset – importing - playing around
- 0 in the "athome" variable not being recognised in regression
- Rodeo libraries (sklearn) not being installed
- Plots overlapping

Write - up

- Lit review, struggling to find relevant studies
- Still find myself unsure on prose and stance
- Tend to get informal

Time management

Initial Expected Gantt Chart



Time management

Actual Gantt Chart