Seán Hayes Journal Paper Rev 0C Comments Addressed

# Heading Changed

Title changed from:

“Compressed Air System Fault Detection Using Rule-Based Expert Systems with K-Means Clustering for Mode Identification and Efficiency Degradation Detection”

to:

“Compressed Air System Fault Detection Using a Rule-Based Expert System and Machine Learning for Mode Identification for Performance Degradation Detection”

# Reference Style

The reference style used is the same as that used by the journal with the exception of the year being in brackets in my paper (e.g. what should be *Bruton et al. 2014*  is *Bruton et al. (2014)* in my paper). However I’ve used the Latex template specific to the journal, and to try to edit this is quite tricky. From reading online forums the general advice seems to be to submit as is, and the journal will end up editing the Latex bibliography style to suit anyway.

# Section 1 Repetition

Repetitive sentence “Compressors are generally recognised as significant energy users in an industrial context (Wang and Brown (2013)).” removed, and previous sentence modified to include Wang reference.

# Section 2 O’Donovan Reference

Inserted apostrophe into (O’Donovan et al (2015b)).

# Subsection 2.1 Cut Down

Section cut down and made more concise.

# Subsection 2.3 Clarification

Sentence inserted to clarify the difference between grey and black box methods.

# Table 2 Lines

Horizontal lines inserted into Table 2.

# Subsection 3.2 Clarification

Comment inserted to clarify what is meant by free air.

# Section 4 Rewording

Changed HVAC unit to air handling unit.

# Section 4 Clarification

Clarification inserted that prior knowledge on the power consumption in each mode was not available from manufacturer data, and so the methodology of clustering combined with the prior knowledge of the CAGI sheet was used.

# Section 4 Typo

Changed Mode 2 to 3.

# Section 4 Clarification on K usage

Apologies for this oversight, removed reference to *K* and used *k* consistently.

# Figure 13 Query

Inserted comment in text that it took an initial training period for the clusters to settle at their final approximate values, as it was observed during the initial training period that all required operational modes were not present until approximately the 200th data point of the test.

# Data Flow Architecture Diagram

Figure 14 inserted.