***Machine vision approach to identifying and grading strawberries***

***Gilbert Eaton***

**-Thesis Examiners feedback response-**

**March 2020**

**Examiner 1:**

**Title page / preamble:**

Comments:

None

In text comments:

None

**Chapter 1 - Introduction:**

Comments:

None

In text comments:

None

**Chapter 2:**

Comment:

*“It would be helpful to have a paragraph defining hyperspectral data (and contrasting with*

*multispectral and RGB). The term seems to be used on p28 without much introduction for*

*the reader so far (EDIT just got to the later section 2.4 defining the terms – can you link*

*forward to this from the earlier references?) Also in this section, you might want to provide*

*more detail on hyper versus multispectral versus normal colour imaging, especially in terms*

*of number of samples throughout the spectrum range.”*

Response:

Moved subsection “Hyperspectral / Multispectral Imaging” to precede other sections referencing hyperspectral methods to address reader understanding.

Comment:

*“Fig 2.5 Add citations for where the figure came from to the legend, so readers are clear of*

*the source (and that it is not yours)”*

Response:

In text comments:

* Minor spelling/grammatical corrections – Accepted.

**Chapter 3:**

* Minor spelling/grammatical corrections.
* Labelled parts of Figure 3.8 appropriately to give the reader better understanding.
* Added GUI development illustrations/images to appendix to show iterative progression.
* Corrected technicalities in chapter 3.3.7.3 Image Processing.
* Indication to Chapter 6 added to address concerns of algorithm improvements.
* Added pseudo-code algorithm to describe initial image processing techniques indicating numerical values associated with threshold variables.
* Removed single example of algorithm results.
* Provided eight example output images to demonstrate the approach used. True positive, true negative, false positive, and false negative examples used.

**Examiner 2:**

**Title page / preamble:**

Comments:

*1. “The title of the thesis “Machine vision approach to identifying and grading strawberries”*

*seems very broad. Throughout the thesis the work carried out deals with grading strawberry*

*“punnets” not individual strawberries, and involves design and development of online*

*system for “strawberry punnets” . Thus, I strongly recommend to change the title.”*

Response:

Ignore based on chairpersons comment. Thesis main title unchanged.

**Chapter 1 – Introduction:**

Comment:

None

In text comments:

* Approximate reject numbers used opposed to real recorded numbers in “Contributions” subsection – Accepted and updated to accurate quantities.

**Chapter 2:**

Comment:

*“However, there are several typographical errors need to be corrected which are marked as comments in the thesis. One such example is, “et al.” is wrongly mentioned as “et al” throughout the thesis.”*

Response:

Accepted and changed all occurrences of “et al” to “et al.” (added period).

In text comments:

* Minor spelling/grammatical corrections - Accepted and changed as stated in text.

**Chapter 3:**

Comment:

None

In text comments:

* Minor spelling/grammatical corrections - Accepted
* Label parts of Figure 3.6 appropriately to give the reader better understanding – Accepted and updated figure with annotations.
* Figure 3.7 is not appropriate to text – Accepted, referenced more clearly in text.
* Figure 3.9 regarding use of spherical items in target images not understood – Accepted, added descriptive comment.