Cambridge Food Robotics Challenges
Computer Vision and Learning Challenge

Summary

Agriculture is an industry in which there is significant opportunity for the application of computer vision and learning. This challenge looks at applying leading vision and learning research and techniques to a real-world problem which is particularly challenge due to the varying lighting conditions and the variation within crops and produce.   Currently much of this work utilises human workers or using relatively inflexible or untrained learning methods; this challenge explores how latest research can be used to develop a more universal solution.

Any questions or rule qualifications should be sent to the competition organisers.

Challenge

In advanced of the competition (in the beginning of March) teams will be provided with a labelled data set for a range of produce. This will be labelled with the produce type, classification (undamaged, blemished, too small, supermarket quality etc.) and the weight of the produce.

Teams must use vision and learning to be able to identify the correct classification of products and estimate the weight given the test data set.

Teams should consider using data augmentation methods in their implementation data set as test data may be provided with varying light conditions/crops.

During this challenge images from a 'real world' produce sorting environment such that they are subject to varying lighting conditions, dirt on the produce, and varying varieties within a particular crop type.

At the competition teams will be presented with a test data set and they should identify the following:

- What produce is present in the image
- Classification of the given produce (the different classification groups will be provided)
- Estimated weight of the produce

The format of the required data will be given in advance of the competition.

Teams should present a poster on their methods used and applied to the dataset.