LITERATURE SURVEY

*Kapach, K., Barnea, E., Mairon, R., Edan, Y. and Ben-Shahar, O. (2012) ‘Computer vision for fruit harvesting robots – state of the art and challenges ahead’, Int. J. Computational Vision and Robotics, Vol. 3, Nos. 1/2, pp.4–34*

This article presents a comprehensive review of classical and state-of-the-art machine vision solutions employed in such systems, with special emphasis on the visual cues and machine vision algorithms used

*A Survey of Computer Vision Methods for Locating Fruit on Trees ARJimenez\_SurveyVisionHarvesting\_TransASAE\_200.*

A review of previous studies to automate the location of fruit on trees using computer vision methods was performed. The main features of these approaches are described, paying special attention to the sensors and accessories utilized for capturing tree images, the image processing strategy used to detect the fruit, and the results obtained in terms of the correct/false detection rates and the ability to detect fruit independent of its maturity stage.

*Diatom autofocusing in brightfeld microscopy: a comparative study.*

We present a number of autofocusing methods in lighting microscopy for its use in diatom identifcation. Among these, the Tenengrad method has been considered one of the best.

*Automated visual fruit detection for harvest estimation and robotic harvesting*[*Image Processing Theory Tools and Applications (IPTA), 2016 6th International Conference*](http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=7799452)

We suggest to use an object categorisation framework based on boosted cascades of weak classiﬁers to implement a fully automated semi-supervised fruit detector and demonstrate it on both strawberries and apples. Compared to existing techniques we improved fruit detection, mainly in the case of fruit clusters, using a supervised machine learning instead of hand crafting image ﬁlters speciﬁc to the application.

MY PROPOSED METHOD: DEEP LEARNING + 3D/2D Computer Vision