

Conceptual control design for harvester robot

ABSTRACT

The previous development of the "robot eye" system for agriculture arm machine was successfully designed and fabricated to predict the actual distance of the object target. Stereo pair of Videogrammetry technique and triangulation was used to determine the distance measurement of object target. By a "click" on the images displayed on developed graphical user interface created by Visual Basic V6, the three-dimensional target distance was generated and robot arm able to move and grab the selected target automatically. The enhancement done with the application of camera vision system for recognizing the matured cocoa fruit in the field. The training image/ benchmark concept was applied into developed graphical user interface software. The user only click for make the training image/ benchmark data, then the threshold of the target image produced and the software decided for image recognition. The user needs to update the training image data by click to training image due to sunlight variances. This system was theoretically successful for color-based recognitions application in real plantation of agriculture product.

Keyword: Control; Design; Harvester; Robot