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Machine Vision based Non-destructive grading system for post-harvest fruit processing

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Abstract

Imaging techniques are increasingly used for non-destructive quality assessment and grading in post-harvest processing industry. These systems predict the maturity, ripeness, decay stage or presence of damages using features, such as color, size, and texture based metrics, extracted from a series of images. These methods use large volumes of data and are typically computationally intensive. In order to implement an image based grading system in real-time, it is necessary to study the tradeoff between complexities of processing against the prediction accuracy. In addition, it is important to process data at the point of capturing, to reduce latency and cost of data transfer. In this project, it is proposed to design and implement an inline grading system for real-time inspection of a selected fruit variety using a portable processing unit.

***Keywords*: Post-harvest processing, machine vision, Real-time fruit grading**