ROTTEN FRUIT DETECTION USING R-CNN

SYNOPSIS

Postharvest is one of the important stages of agriculture. The standard of a product delivered in the market is entirely dependent on the quality analysis during the postharvest. However, in agriculture this task is often time consuming and also requires more manpower, thereby increasing the production costs. Also, manual work is often prone to more errors, thereby one single infected fruit spreading it through a whole batch, and thus increasing loss.

With this project, we are aiming to eliminate these hectic tasks, by automating the postharvest process using AI and computer vision. An R-CNN based model will be trained with thousands of fruits’ images, taken in all angles. During postharvest, the fruits will be processed as batches, for example a tray, which is a mixture of both fresh and rotten fruits. When performing clustering on this, the raw image data will be replaced with features extracted by our pretrained model, thereby resulting in better clustering performance.

When applying it in real world scenario, an industrial robotic arm can be used with a camera, thus capturing vision and feeding it into the R-CNN network thereby recognizing and localizing the rotten fruits, and picking those up from the batch tray.