

Rice Classification Implementation in OpenCV

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Abstract

Rice is a staple food which has a series of quality control requirements. We hereby introduce a method in OpenCV to count and classify rice kernels with the usage of several techniques, implemented in Python.

1 Introduction

Rice is a staple food for a large part of the human population. Commercially the grading of rice is performed based on several factors such as weight, purity, percentage of damaged kernels and presence of foreign material. [1] In this report, we discuss multiple techniques that can be used on counting rice kernels and detecting whether it can be regarded as a complete rice kernel. These techniques include Iso-data intensity thresholding [2], Two-pass connected components algorithm with a median filter [3][4] and counting the size of such rice kernels to determine whether it is damaged. The algorithm is written in Python 3.6 with OpenCV 3.4 using a Linux computer.

2 Literature Review

3 Methods

4 Results

5 Discussions

6 Future Work