

Analyzing the Accuracy of KNN-based Cacao Bean Grading System

Publisher: IEEE

[Cite This](#) PDFJannie Fleur V. Oraño ; Francis Rey F. Padoa ; Rhodenck D. Malangsa [All Authors](#)49
Full
Text Views

Abstract

Document Sections

- I Introduction
- II Related Studies
- III Methodology
- IV Results and Discussion
- V Conclusion and Recommendation

Authors

Figures

References

Keywords

Metrics

Footnotes

Abstract:

Cacao is one of the major crops of the tropical world and is known worldwide for its beans used for manufacturing of products which are highly popular and widely consumed around the world such as chocolate and cocoa powder. Grading the cacao beans is a method utilized by the cacao experts and farmers to ensure valuable and good supply of cacao beans in the market. However, manual grading of the cacao beans using the naked eye observation is more laborious, time consuming and less accurate. To automate the said process, a computer-based cacao beans grading system was developed using image processing and KNN algorithm. One hundred ninety (190) samples were consumed as training examples and sixty samples (60) for classification. The system was designed and developed using C# Windows Form Application as its programming language, XAMPP as its server scripting language, and MySQL as its database. The accuracy calculation of the system resulted to 93.33%, which implies that the KNN model was able to effectively grade cacao beans.

Published in: 2019 IEEE 11th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM)

Date of Conference: 29 Nov.-1 Dec. 2019

INSPEC Accession Number: 19556355

Date Added to IEEE Xplore: 23 April 2020

DOI: 10.1109/HNICEM48295.2019.9072790

► **ISBN Information:**

Publisher: IEEE

Conference Location: Laoag, Philippines