

GuavaScript

A Guava Quality Predictor

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Introduction to AI Group 3

Introduction

GuavaScript is an AI project that uses deep learning to predict guava quality.

By uploading a picture and traceability code, customers can obtain detailed information about guava quality.

It aims to reduce wastage, enable informed purchases, and mitigate the impact of China's boycott on Taiwanese fruits.

Problem

- China's Boycott on Taiwanese Fruit
- Damage during Selection and Picking
- Wastage of Good-Tasting but Unsellable Fruit
- Growing Problem of Leftover Food

Input

- Guava's Photo
- Guava's Traceability Code

AI Canva Abilities

Tells consumers the quality of the guava.

Output

- Sweetness
- Sourness
- Crunchiness
- Hardness
- Guava flavor

Judgement

- Guava Quality Matches Consumer Taste
- Overcomes China's Boycott and Increases Revenue
- Addresses the Wastage of All Kinds of Guava.

Training Data

- Guava's Photo
- Guava's Origin
- Guava's Traceability Code
- Guava's Quality Ratings
- The weather in the origin
- The yield of guava in the origin
- The Farm Record of Guava

Methodology

- Remove BG (Un2net model) improve CNN
- VGG16 (CNN model) image recognition
- Random Forest (Regression model)

Development

- Dataset Preprocess
- Guava Day Identify
- Guava Quality Identify
- Testing Data Predict
- Gradio Create

Results



Limitations

- Dependency on available data
- External factors
- Limited scope
- Subjective feeling

Possible Future Applications

- IoT and smart farming
- Mobile applications
- Expansion to other fruits
- Collaboration and data sharing
- Supply chain optimization
- Sorting and grading automation
- Yield prediction and harvest planning