An Abstract
On

AN INTELLIGENT FRAMEWORK FOR IDENTIFYING THE COOKING STATE OF RICE

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An Intelligent Framework for Identifying the Cooking State Of Rice

ABSTRACT

Consistent identification of rice cooking stages is essential for maintaining food quality in homes, large kitchens, and automated cooking systems. Traditional manual inspection methods are subjective and prone to human error, making it difficult to determine whether rice is raw, semi-cooked, or fully cooked. To overcome these limitations, this project proposes an intelligent framework that automatically classifies rice cooking stages using deep learning and computer vision.

The system uses the images which are collected and processes them through a structured workflow that includes preprocessing, normalization, and data augmentation. Transfer learning with pre-trained CNN models such as MobileNetV2 or ResNet50 is applied to extract detailed visual features and classify rice into three categories: Raw, Semi-Cooked, and Fully Cooked. The framework aims to provide an efficient, accurate, and non-intrusive solution suitable for real-time food assessment.

By minimizing human involvement and enhancing classification precision, the proposed system supports smart kitchen automation, reduces cooking inconsistencies, and improves overall food preparation efficiency. This work demonstrates how AI-driven image analysis can significantly contribute to modern food quality monitoring and intelligent cooking technologies.

PROJECT GUIDE

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