

**Universiti Teknologi MARA**

**Malay Festive Seasons  
Food Recognition for Calorie Detection**

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## **STUDENT DECLARATION**

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



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## ABSTRACT

The idea of adding an auto-recognition feature for Malay Festive Seasons Food based on images is very challenging task in image computer vision as it is something new and undiscovered before. However, this recognition is important for Malaysian users to manage calorie intake, especially during *Hari Raya*, one of the biggest festive seasons and the most celebrated festivals in Malaysia. As color plays an important role in differentiating the type of food, therefore this research aims to implement Color Feature Extraction Method after performing segmentation techniques during the pre-processing phase where each color from the images will be extracted individually. Then the result from the Color Feature Extraction Method is used to identify the type of food by using Error-Correcting Output Codes (ECOC) classification which is the part of the Support Vector Machine (SVM) algorithm. The reliability and effectiveness of the classifier are evaluated through system testing where the total overall percentage of correct recognition performed by the system is 82.5% according to the correct and wrong recognition obtained. The ability to recognize the food correctly after classifying the image is crucial in this research to accurately perform the calorie estimation whereby the calorie value will be auto-generated after food recognition is performed. Besides, thorough research has been conducted on the calorie value for each type of food by using the reliable internet resources to ensure users can benefit from the system in the future.

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