Universiti Teknologi MARA

Malay Traditional Dessert Image Recognition Using Convolutional Neural Network

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ABSTRACT

This research was about Malay traditional dessert image recognition using Convolutional Neural Network (CNN). The extinction of many traditional desserts makes the current generations do not recognize the desserts. Some people might have seen the dessert but did not know the name. This is a problem because they could only describe the dessert. If they want to search for its names, it will become harder. To cater this problem, it is essential to provide a useful way for people to easily search about the desserts. Therefore, the objective of this project is to design and develop a Malay traditional dessert image recognition prototype using CNN technique. The methodology for this project involved five phases which were identifying problem, collecting data, designing and lastly developing, testing and fine tuning. For the data collection, there were 5 datasets with each dataset had 10 images for testing dataset and 20 images for training dataset. The project showed accuracy result for testing and training. The accuracy for training dataset is 0.5255 while 0.5978 for testing dataset. The result for testing the project is 57.14%. This conclude that the project is successful as it can run using the CNN technique. The accuracy result was not satisfying, but it can be improved in the future. As a conclusion, this project significantly helps general people to recognize and know more about the Malay traditional dessert.

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CHAPTER 1

INTRODUCTION

This chapter provides the background and rationale for the study. It also gives details of the significance of preserving Malay traditional desserts, the issues and problems that led to this research.

1.1 Background of Study

Malay desserts or known as 'kuih' in Malay are a bite-sized snack originating from Malaysia. It is a term which may include items that would be called cakes, cookies, biscuits or pastries in English (https://en.wikipedia.org/wiki/Kuih). The term 'kuih' or 'kueh' is widely used in Malaysia, Singapore, Brunei and Indonesia. It is also stated that many desserts are sweet but some are also savoury (Opalyn Mok, 2016). In Kelantan, Perlis, Kedah and Perak, desserts are usually sweet. Meanwhile, in Negeri Sembilan and Melaka, desserts will be more savoury. Nowadays, mostly traditional desserts are rarely known especially among younger generation. Traditional desserts such as nagasari ubi, tepung kulit, wadai kipeng and putugal are example of traditional desserts that almost extinct (Luqman Arif, 2018). Figure 1.1.1 shows the pictures of these desserts. There is also no continuation of traditional recipe from one generation to the next generation when the younger generation does not want to learn and preserve the recipe (Utusan Online, 2017).