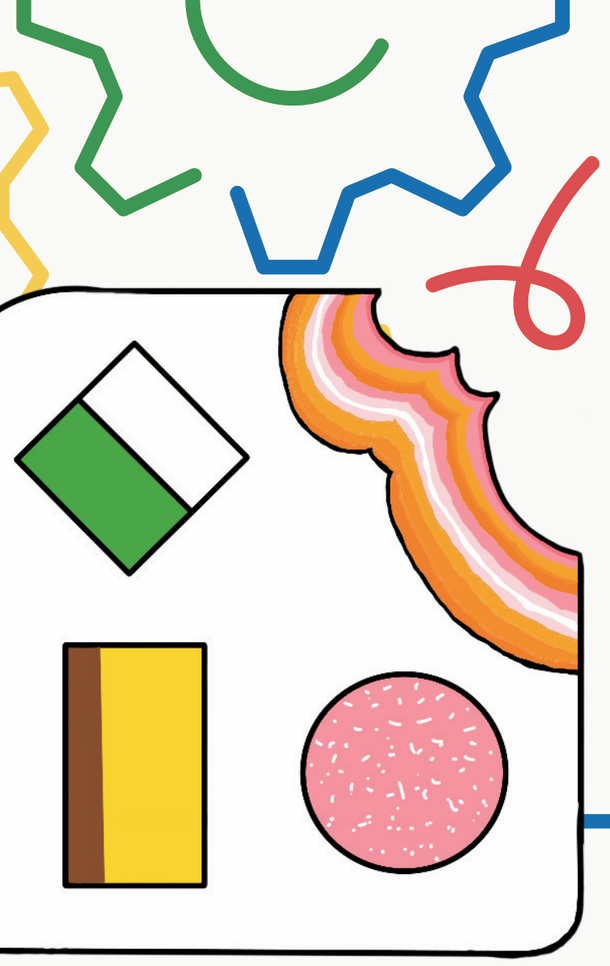

BYTE OF KUIH

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01 Introduction

Kuih has existed as an integral part of Malaysian cuisine since the 15th century(1). There is currently no single AI model that specialises in the identification of different types of kuih.

Moreover, current image-based identification models (i.e., Google Lens, TinEye, etc.) lack specialisation in this area.

02 Objectives

- Collect images of 8 different types of kuih in **different settings** for a diverse dataset
- Develop an **AI model** that can accurately identify different types of kuih

03 Methodology

The model selected for this project was the **EfficientNetV2-S.** The model was trained through **transfer learning**.

04 Results

- Baseline Accuracy: **57%**
- Validation Accuracy: **98%**
- Validation Time: **0.5s / image**
- Test Accuracy: **100%**
- Test Time: **0.15s / image**
- Model Size: **213 MB**

05 Data Variations

We incorporated the following data augmentation methods to our raw image data:

- Standard **flips** and **rotations**
- Moderate **colour jittering**
- Small **random erasing**

Access Byte of Kuih

06 Conclusion

The model for recognition and classification of types of kuih ran on an **accuracy of 98%** with an inference time of up to **0.15s per image**. Further finetuning will focus on optimizing the model such as quantization and hyperparameter tuning.

References: Toh, T. (2022, April 05). The colourful history of Malaysian kuih-muih. Tatler Asia. https://www.tatlerasia.com/dining/food/my-the-colourful-history-of-kuih