Food Waste Management

Food Waste MAnagement

"The problem is not actual number of calories we are producing – we have food waste issues. The problem is industrial food."

Content

Introduction

In this mini project, I and our team designed a machine learning algorithm for detecting the amount of food left by a person and analysing the data regarding the wastage of food. For now, the result is shown in jupitor as graphical interface.

The Aims of the Presentation

To describe our mini project to our mentor easily.

To make people aware about how much amount of food they waste regularly.

To present/ encourage others regarding this issue.

Requirements and Module

Develpoment and Implementation requires....

Softwares

- MATLAB Framework
- Pycharm
- Anoconda3
  / Jupyter

Hardwares

- Laptop of min.8GB RAM and i3 processor
- Android Device with Marsmallow or above versions

Continued...

Modules and Phases

This project contain three module :-

1- Input phase
> User take picture of plate after meal
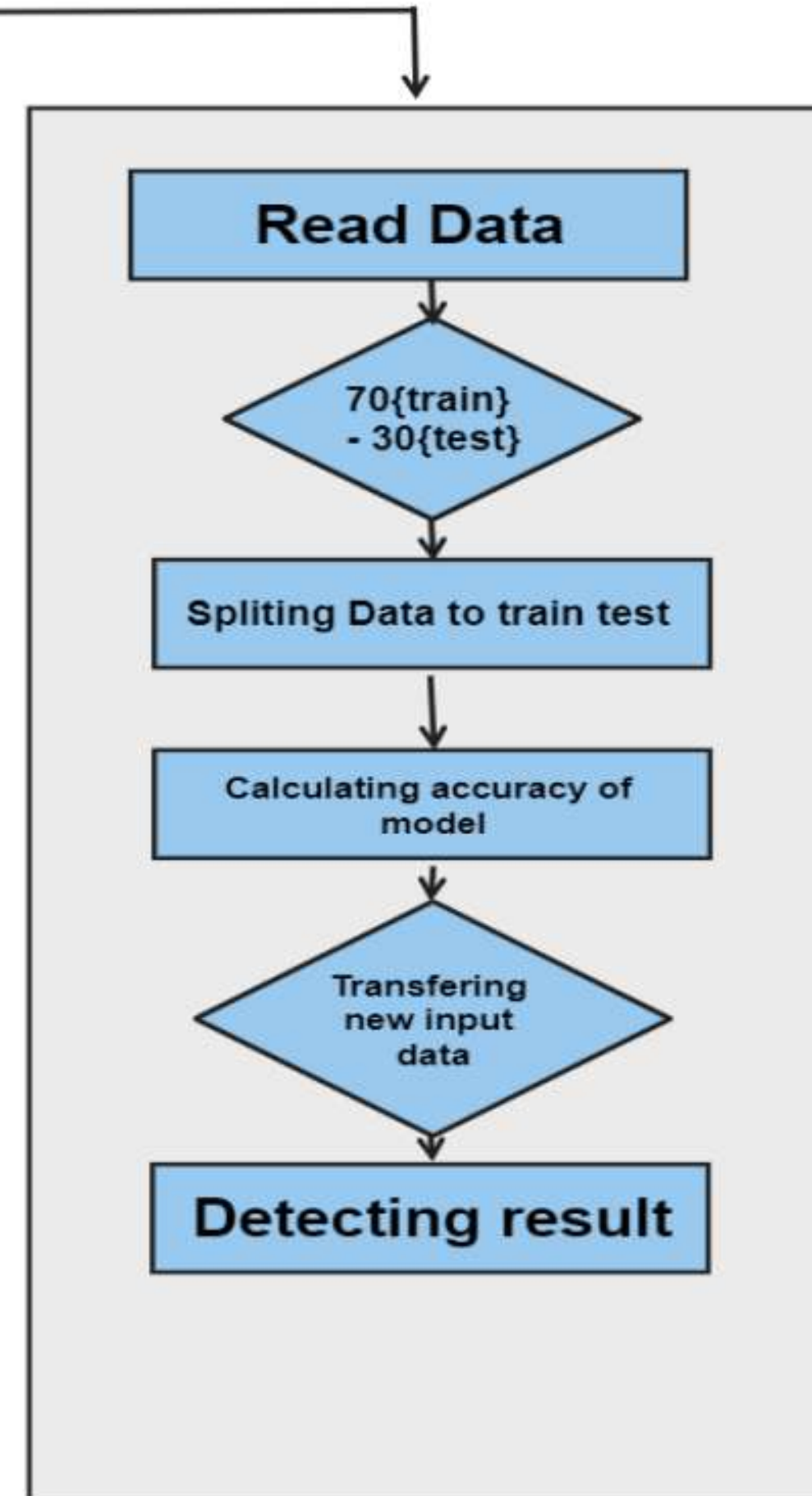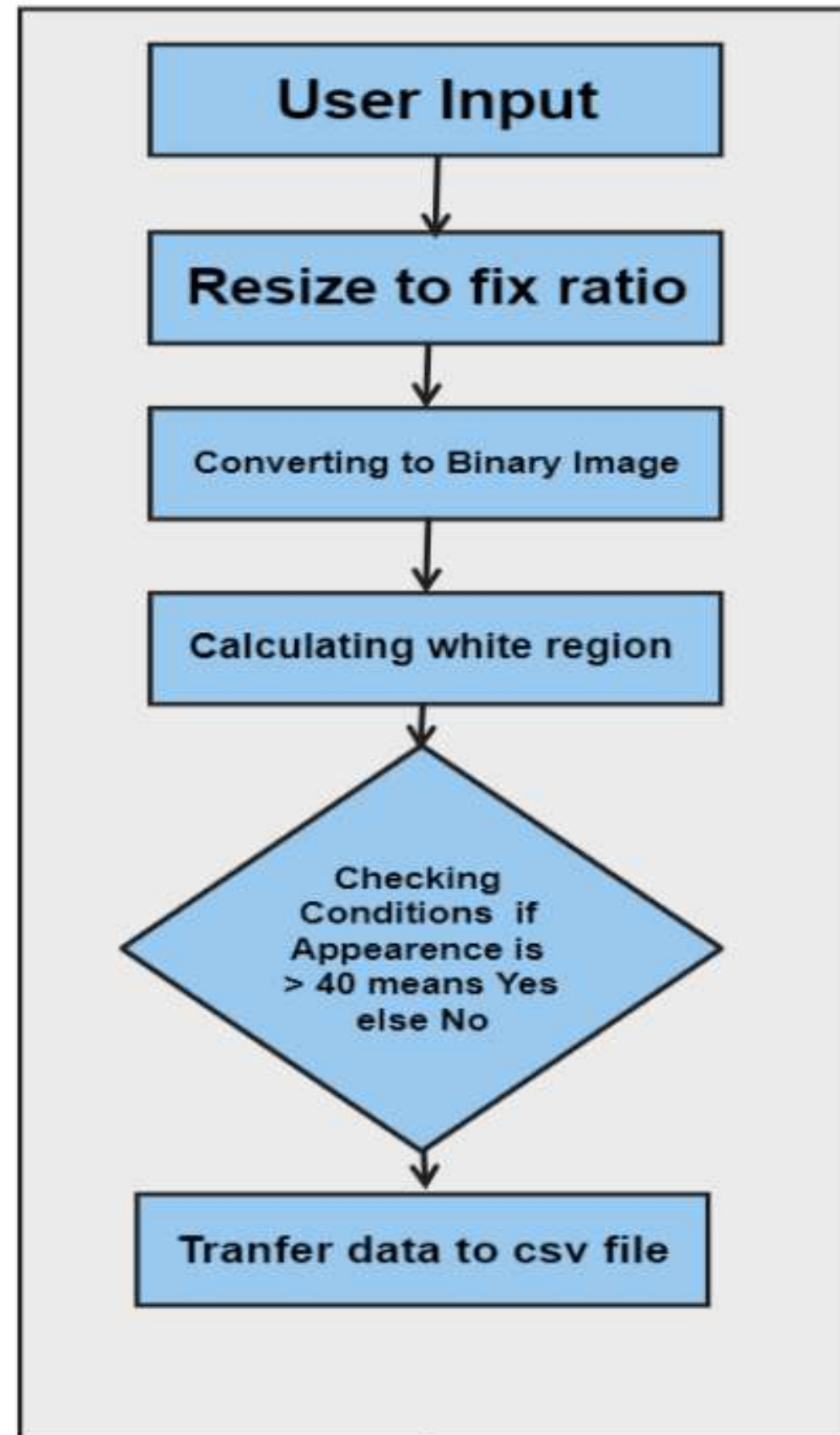
2- Image processing Phase
> Image get processed with various technique like resizing to fix ration, changing to black counting the pixels, etc.
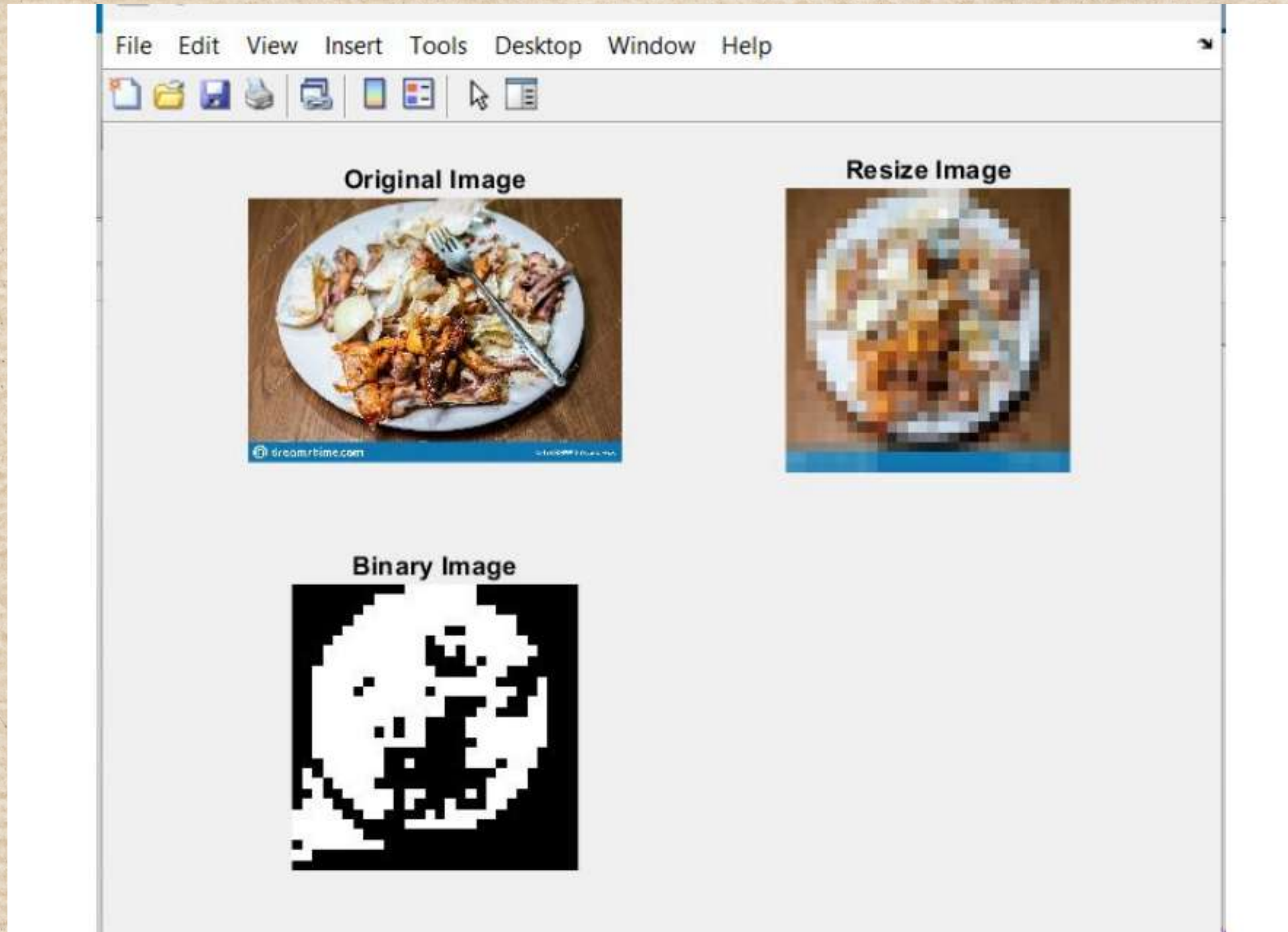
3- Predictinng the input
> Image will be compared with previous defined images and return the result in Yes No form.
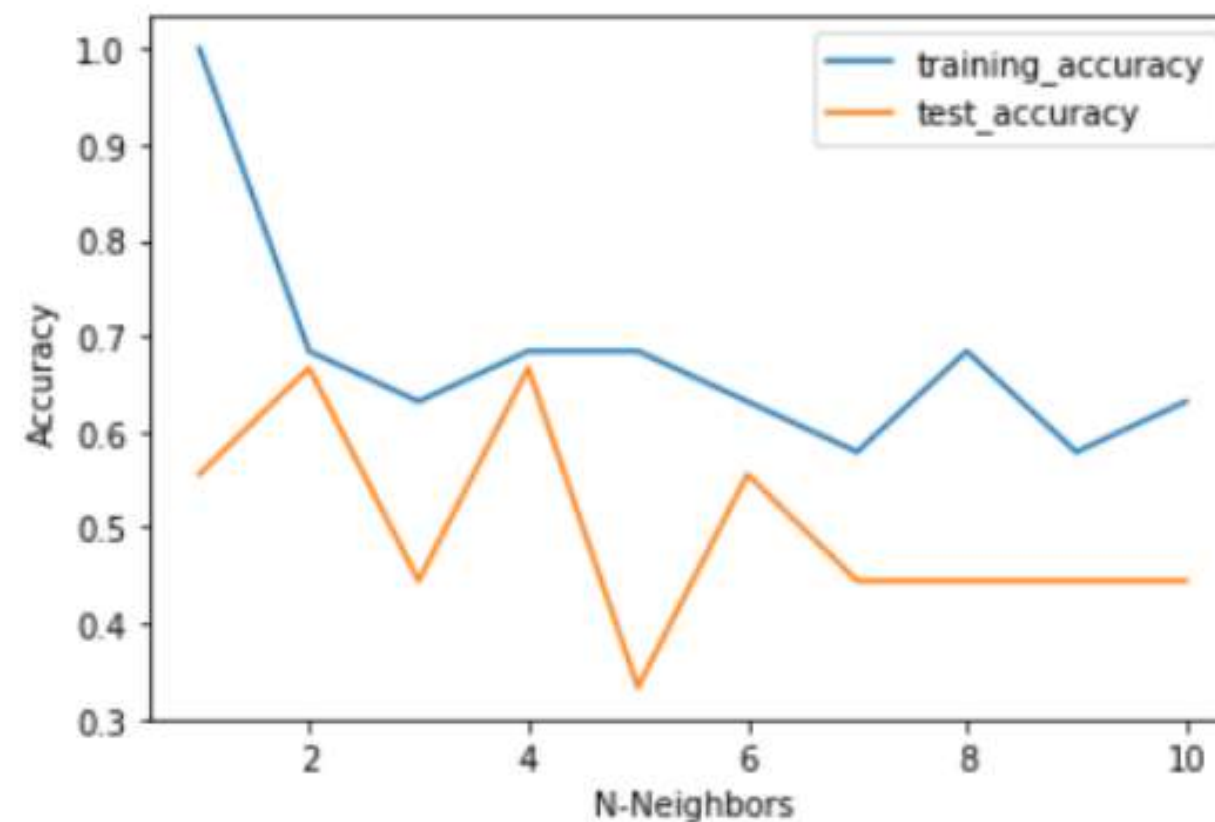
Flowchart

Output Screenshoot

Output Screenshoot

1- Column name in dataset

```
Index(['Sr No.', 'Image ', 'Total row before enhancement',
       'Total Column before enhancement', 'Total Pixel (Before)',
       'Total row after enhancement', 'Total column after enhancement',
       'Total Pixel (After)', 'Total Black Pixel', 'Total White Pixel',
       'Ratio', 'White Percent', 'Result'],
      dtype='object')
```

2- Accuracy Graph

Output Screenshoot

3- Accuracy on training testing dataset

Accuracy on training set: 0.63

Accuracy on test set: 0.56

4- Detected Output/ Result\

'1' indicate you wasted food and '0' indicate you have not wasted food...

User Input Datset:- [[28, 28, 1130, 1600, 1808000, 28, 28, 784, 364, 420, 1.15, 53.571]]

Ditected Result is:- [1]

References

Books...

- Digital Image Processing by Rafael C. Gonzalez
- Life 3.0_ Being Human in the Age of Artificial Intelligence
- DIP by Sridhar, S.

Internet...

- www.tensorflow.com
- https://app.supervised.ly
- www.deeplearningAI.com
- www.youtube.com

Conclusion and Future Work

In this mini project we concluded that, It is critical to educate people and encourage them practise not to waste food and help in reducing global index rate.

After successful complition of this project, the described algorithm will be use in Hostal mess camras to identify person who waste food and impose penality on them.

Thank You

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