



**FINAL YEAR PROJECT REPORT**

**MULTI VISION RECIPE RECOMMENDATION  
SYSTEM**

**In fulfillment of the requirement  
For degree of  
BS (COMPUTER SCIENCES)**

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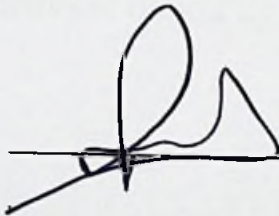
**BAHRIA UNIVERSITY (KARACHI CAMPUS)**

**FALL-2022**

**DECLARATION**

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

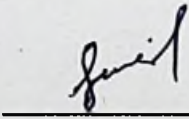
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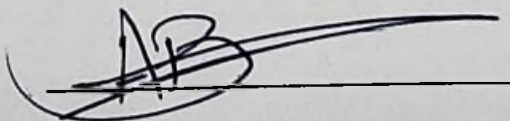
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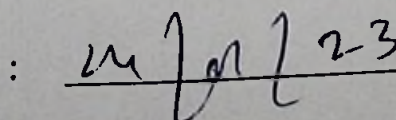
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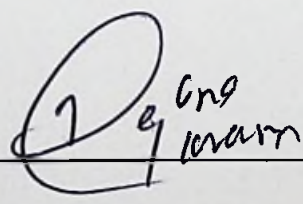
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**APPROVAL FOR SUBMISSION**

We certify that this project report entitled "MULTI VISION RECIPE RECOMMENDATION SYSTEM" was prepared by ALI FAWAD HASSAN, BASIL ASLAM AND ABDUL MANAN has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Computer Science at Bahria University.

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## MULTI VISION RECIPE RECOMMENDATION SYSTEM

### ABSTRACT

This project uses the Convolutional Neural Network technique for image processing and content based filtering for recommendation system. The main advantage of using CNN is that it automatically detects the important features without any human supervision. Moreover, content based filtering does not need any data about other users, since the recommendations are specific to the particular user. This makes it easier to scale to a large number of users. The goal of this project is to create image recognition algorithms that can identify ingredients from images and then recommend recipes based on those ingredients. The recipes are also recommended depending on the user's BMI (Body Mass Index), which results in healthy recipes for that person. This report examines various techniques for identifying ingredients. The pre-processing step, segmentation, and feature extraction are just a few of the various image processing phases that will be examined and discussed. The output of the algorithms will then be written in the Colab notebook for the backend. The currently build system is a mobile application that performs recommendation based on image recognition and BMI of the user. If the user chooses to process images, the system begins by doing a pre-process on the image after which it recommends recipes based on the images it has recognized. If user selects for BMI, then the system first asks the user to enter his/her height and weight. The system then continues by calculating BMI, after which recipes are recommended based on BMI to determine which ones will be healthier for the user. The user can also search for recipes by simply writing the names of ingredients.

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