

Informatics Institute of Technology In Collaboration With

University of Westminster, UK

# Calorie Amount prediction system for chronic disease patients

A dissertation by Ms. Rashini Fernando

Supervised by Mr. Ragu Sivaraman

Submitted in partial fulfillment of the requirements for the BEng (Hons) Software  
Engineering Degree Department of Computing

May 2021

© The copyright for this project and all its associated products resides with Informatics Institute  
of Technology.

## **Abstract**

Chronic diseases give enduring and profound changes in peoples' lives which require novel coping attempts to preserve healthy lifestyles. A broad conceptualization of adjustments which moves from a sole focus on the absence of healthy diet as the measure of healthy lifestyle toward multifaceted conceptualizations of adjustments are used to incorporate people's life contexts. However, dinning out has become a necessity among the citizenry which is increasing the sprung of restaurants. Moreover, the society has grown conscientious on healthy meal plans increasingly and the interests are escalating towards healthy meals. There is a need to promote and brace the consumption of healthy meals in order to ensure a sustainably developing society.

Dining-out, which is a perception-affect experience, can be considered as a common practice among the citizenries. The ease of use and simplicity of a restaurant menu facilitate the ordering process. Introducing the tablet menu revolutionized the patron's dining experience. Several existing systems provide the nutritional information about the menu items and personalizes the menu considering individual preferences. Nevertheless, none of them predict the calorie amount considering the consumers' personal medical details.

This system provides a novel algorithm along with a design which predict the amount of calories a chronic disease patient can take in from one meal considering the person's medical records. The mechanisms used for model selection and decision making throughout the system are novel results accomplished by this dissertation. Compared to the existing systems, this system is a first of its kind and brings a new concept of dining out for the chronic disease patients.

**Keywords:** Calorie prediction, Personalized Menu, Unique Menu, Chronic disease

