



**RUTGERS**

School of Engineering  
Department of Electrical and Computer Engineering

## **Capstone Project Proposal**

**Project Number:** S16-10

**Project Title:** Object Recognition with Google Glass

**Project term:** Spring 2016

Student names and contact information:

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**Team number: 4**

**Title: Calorie Calculator with Object Recognition**

### **1. Problem Statement**

As the matter of fact, people stress more on health issue nowadays and people who want to keep fit will worry about how much calorie they take each meal. Moreover, when they are going shopping for foods, they will also value which should buy and which shouldn't.

### **2. Recommend Solution**

Object Recognition is a good approach for calorie counting. For most of foods and drinks in our world have a certain range of calorie which means if we recognize the item and check with a scientifically tested list of calorie table, we can achieve the goal of counting calories.

### **3. Proposed Project Description**

The main goal of our capstone design is to build up a system for user. In our system, people can simply use camera system in their mobile device to scan the food they refer to and the system shall recognize significant items in scanning window and count the total calorie for user. There are two parts of our project.

First, we need to implement the communication between Mobile Devices and Image Processing terminal. The connection shall be the wireless internet which is easily reached for user. The connection shall contains the function of communication with message and image.

Second, once the image processing terminal gets the images, our project should have the ability to recognize multiple objects and retrieve their name and location from the images. We will use traditional machine learning methods with MATLAB for object recognition part.

### **4. Data Source**

For object recognition, we can use some public database as training purpose. The major training procedure is down by MATLAB. MATLAB carries high performance of matrix arithmetic which suits the need of image process. For the mobile terminal we would like to use common Android platform which is portable to google glass as well as easy to be test.