Graph based nutrition guide

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November 28, 2017

1 Introduction

Having a healthy and balanced diet is key to prevent diseases and maintain shape. Offering healthy diets and food plans became recently a popular trend. Many companies around the world propose have launched services to guide people into what foods and ingredients cover their nutritional needs. However, these services are not accessible everywhere and cost money making it cumbersome for all people to choose their food properly. This leads either to bad nutritional habits or restricts individuals to the same dishes they are used to.

2 Datasets

The dataset chosen for this project is the open source dataset OpenFood which should contain all the nutritional information needed about different Swiss products.
The information we will need from the dataset are the macro-nutrients (protein, fat (and saturated fat) and carbs) as well as the calories contained in the product.
The second Dataset used will contain the vitamins and minerals of generic foods (fruits, vegetables, grains, nuts).
It was made by the French government and we downloaded it from this link https://www.data.gouv.fr/fr/datasets/table-ciqual-de-composition-nutritionnelle-des-aliments-format-csv/

3 Plan

Our graph will consist of the ingredients as nodes and the similarity coefficients between products as edges (based on nutritional values : calories, macro-nutrients, vitamins and minerals).

Our project aims to accomplish the functionalities :

- Start a plan for a given user based on his preferences and personal information such as age, height, sex. This may include different diets to adapt the food regimen to intolerances and allergies the user may have but can also be extended to take into account a specific diet type (vegetarian,vegan,pescatarian,etc)
- Suggest alternatives for foods that the user needs but may not like.

4 Potential problems

- The ingredients suggested to the user may be incompatible to prepare a meal.
- The datasets are not complete in the sense that some products lack information.