Projet Python for Data Analyse

A readme summarizing the task to be accomplished and your conclusions

We split the data set into 3 categories:

* The first one contains every attribute related with eating habits:
  + Frequent consumption of high caloric food (FAVC)
  + Frequency of consumption of vegetables (FCVC)
  + Number of main meals (NCP)
  + Consumption of food between meals (CAEC)
  + Consumption of water daily (CH20)
  + Consumption of alcohol (CALC)
* the second one contains every attribute related with physical condition:
  + Calorie’s consumption monitoring (SCC)
  + Physical activity frequency (FAF)
  + Time using technology devices (TUE)
  + Transportation used (MTRANS)
  + Smoke
* And finally, all the other variables:
  + Gender
  + Age
  + Height
  + Weight
  + Family\_history\_with\_overweight

All this data is classed into 7 categories in the variable **NObeyesdad**: Insufficient Weight, Normal Weight, Overweight level I, Overweight level II, Obesity Type I, Obesity type II and Obesity Type III

TASKS:

* Data cleaning (delete NaN values)
* Analysis of the Data with graphs
* Prepare the dataset for machine learning (put nonnumeric data into numbers/numeric data)

**Gender:** male = 0, female = 1

**Family\_history\_with\_overweight**: yes = 1, no = 0

**FAVC** (Frequent consumption of high caloric food): yes = 1, no = 0

**SCC** (Calorie’s consumption monitoring): no = 0, yes = 1

**SMOKE**: no = 0, yes = 1

**CAEC** (Consumption of food between meals): n0 = 0, Sometimes = 1, Frequently = 2, Always = 3

**CALC** (Consumption of alcohol): no = 0, Sometimes = 1, Frequently = 2, Always = 3

**MTRANS** (Transportation used): Automobile = 0, Motorbike = 1, Bike = 2, Public\_Transportation = 3, Walking = 4

**NObeyesdad** (target variable): Insufficient Weight = 0, Normal Weight = 1, Overweight level I = 2, Overweight level II = 3, Obesity Type I = 4, Obesity type II = 5, and Obesity Type III = 6.

“The data contains numerical data and continuous data, so it can be used for analysis based on algorithms of **classification**, **prediction**, **segmentation** and **association**.”

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ANALYSE DONNEES:

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|  |  |  |  |
| --- | --- | --- | --- |
| Nom | Type | Signification | Groupe |
| Gender | Qualitative | Gender | informatif |
| Age | Quantitative | Age | informatif |
| Height | Quantitative | Height | informatif |
| Weight | Quantitative | Weight | informatif |
| family\_history\_with\_overweight | Qualitative | family\_history\_with\_overweight | informatif |
| FAVC |  | Frequent consumption of high caloric food |  |
| FCVC |  | Frequency of consumption of vegetables |  |
| NCP |  | Number of main meals |  |
| CAEC |  | Consumption of food between meals |  |
| SMOKE |  |  |  |
| CH2O |  | Consumption of water daily |  |
| SCC |  | Calorie’s consumption monitoring |  |
| FAF |  | Physical activity frequency |  |
| TUE |  | Time using technology devices |  |
| CALC |  | Consumption of alcohol |  |
| MTRANS |  | Transportation used |  |
| NObeyesdad |  | target variable |  |

Ou as-tu trouvé les explications sur les variables?

Faire des groupes de variables?

Variables quantitative et qualitative.

Pour l’analyse :

I PRESENTATION

II ANALYSE

**III Classification of the type of Obesity.**

III CONCLUSION

**I PRESENTATION**

Presenter les données

Analyse des différentes populations d’obèses, explications des variables, (moyenne médiane écart type pour chaque population de type d’obèses)

* Combien de colonnes et combien de lignes. Faire des groupes pour les colonnes
* Peut etre pour chaque type de NObeyesdad

Distribution (moyenne, medianne +quartille + ecart type) des variables grises :

|  |
| --- |
| Gender |
| Age |
| Height |
| Weight |
| family\_history\_with\_overweight |

**Code couleur :**

**Romain**

**Leo**

**I PRESENTATION**

-présenter les données

-nettoyer les données

-encodage des données



**II ANALYSE**

Analyses des données, qu’elles variables ont le plus d’impacts ?

Var négative et var positive

* Pour chaque groupe laquelle a le plus de repercussion sur l’obésite
* Bonus: corrélation entre t’elle varaible

Pourcentage des gens qui fument qui sont en surpoids

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**III Classification of the type of Obesity.**

Partie modélisation

Matrice co-varaince

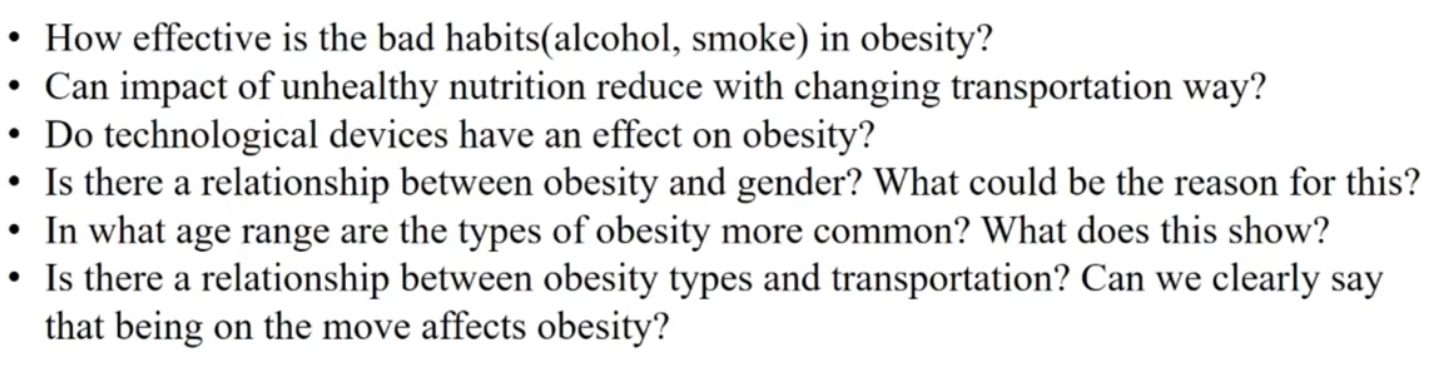
Prédire les meilleures paramètres

**III.2 FLASK**

**API FLASK**

**III CONCLUSION**

A voir^^



Mass body index = Weight/(height\*height)

After all calculation was made to obtain the mass body index for each individual, the results were compared with the data provided by WHO and the Mexican Normativity.

* Underweight Less than 18.5
* Normal 18.5 to 24.9
* Overweight 25.0 to 29.
* Obesity I 30.0 to 34.9
* Obesity II 35.0 to 39.9
* Obesity III Higher than 40

https://www.youtube.com/watch?v=FGz2mBCA1Jo

ID of the subject:

* + Gender
  + Age
  + Height
  + Weight
  + Family\_history\_with\_overweight

Addictions naucify:

* + Smoke
  + Consumption of alcohol (CALC)

Good eating habits:

* + Frequency of consumption of vegetables (FCVC)
  + Consumption of water daily (CH20)

Bad eating habits:

* + Frequent consumption of high caloric food (FAVC)
  + Consumption of food between meals (CAEC)

Quantification of food consomption :

* + Number of main meals (NCP)
  + Calorie’s consumption monitoring (SCC)

Lifestyle habits:

* + Physical activity frequency (FAF)
  + Time using technology devices (TUE)
  + Transportation used (MTRANS)