This notebook will go through the processed csv and perform exploratory data analysis to find any issues that need to be fixed before model creation

In [2]:
```
#import libraries
import numpy as np
import pandas as pd
import plotly.express as px
import plotly.graph_objects as go
from IPython.display import display
import sweetviz as sv
from autoviz.AutoViz_Class import AutoViz_Class
AV = AutoViz_Class()
```

```
Imported AutoViz_Class version: 0.0.81. Call using:
    from autoviz.AutoViz_Class import AutoViz_Class
    AV = AutoViz_Class()
    AV.AutoViz(filename, sep=',', depVar='', dfte=None, header=0, verbose=0,
                             lowess=False,chart_format='svg',max_rows_analyzed
=150000,max_cols_analyzed=30)
Note: verbose=0 or 1 generates charts and displays them in your local Jupyter
notebook.
      verbose=2 saves plots in your local machine under AutoViz_Plots directo
ry and does not display charts.
```

Data Dictionary

- FoodID : Unique Identifier for the food (numerical)
- FoodDescription : Name and contents of the food (text)
- FoodGroup : 23 Groups of food (categorical)
- PROTValue : Value of Protein Nutreint in the food in g/100g
- FATValue : Value of Total Fat in the food in g/100g
- CARBValue : Value of Total Carbohydrate in the food in g/100g
- STARValue : Value of Starch in Carbohydrates in g/100g
- TSUGValue : Value of Sugar in Carbohydrates in g/100g
- TDFValue : Value of Dietary Fibre in Carbohydrates in g/100g
- TSATValue : Value of Saturated Fat in Fats in g/100g
- MUFAValue : Value of Monounsaturated Fat in Fats in g/100g
- PUFAValue : Value of Polyunsaturated Fat in Fats in g/100g

Important Information

- Get the user's age, height in cm, weight in kg and gender for user profile building
- Using Harris-Benedict Equation (Needs.pdf) for Basal Energy Expenditure (BEE), find the calorie intake required per day
- Requirement of Protein in grams = weight in kg
- Calorie of Protein = 4 * Protein in grams
- Find out the percentage of protein by dividing protein calorie by total calorie
- 60% of Calories should be Carbohydrates with more TDF,STAR and less TSUG
- Calculate carbohydrates in grams using CalorieCount/4
- Leftover calories need to be Fat with more MUFA,PUFA and less TSAT
- Calculate fat in grams using CalorieCount/9
- Input will be the requirement of Carbohydrates,Proteins,Fats calculated above
- Output should be Foods that meet the needs with carbohydrates favoring TDF and STAR and Fats favoring MUFA and PUFA
- TSAT should not be more than 10% of Fat intake
- TSUG should not be more than 10% of Carbohydrate intake

In [4]:
```
food_data_df = pd.read_csv('FoodNutritionData.csv')
display(food_data_df.head(5))
```

	FoodID	FoodDescription	FoodGroup	PROTValue	FATValue	CARBValue	STARValue	TSUGV
0	2	Cheese souffle	Mixed Dishes	9.54	15.70	5.91	0.00	
1	4	Chop suey, with meat, canned	Mixed Dishes	4.07	2.80	5.29	0.00	
2	5	Chinese dish, chow mein, chicken	Mixed Dishes	6.76	2.80	8.29	3.99	
3	6	Corn fritter	Baked Products	8.55	21.24	38.62	0.00	
4	7	Beef pot roast, with browned potatoes, peas an...	Mixed Dishes	21.29	5.25	10.72	0.00	

In [5]:
```
food_data_df.dtypes
```

Out[5]:
```
FoodID              int64
FoodDescription    object
FoodGroup          object
PROTValue         float64
FATValue          float64
CARBValue         float64
STARValue         float64
TSUGValue         float64
TDFValue          float64
TSATValue         float64
MUFAValue         float64
PUFAValue         float64
dtype: object
```

In [6]:
```
sv_analyzer = sv.analyze(food_data_df)
sv_analyzer.show_html()
```

```
Report SWEETVIZ_REPORT.html was generated! NOTEBOOK/COLAB USERS: the web brow
ser MAY not pop up, regardless, the report IS saved in your notebook/colab fi
les.
```

In [36]:
```
food_data_df.describe(include='all')
```

Out[36]:

	FoodID	FoodDescription	FoodGroup	PROTValue	FATValue	CARBValue	S
count	5690.000000	5690	5690	5690.000000	5690.000000	5690.000000	569
unique	NaN	5689	23	NaN	NaN	NaN	
top	NaN	Beans, hyacinth, raw	Vegetables and Vegetable Products	NaN	NaN	NaN	
freq	NaN	2	785	NaN	NaN	NaN	
mean	100722.967311	NaN	NaN	11.057056	9.954095	21.980529	
std	197883.301111	NaN	NaN	10.843366	16.718251	26.537885	
min	2.000000	NaN	NaN	0.000000	0.000000	0.000000	
25%	2136.250000	NaN	NaN	2.110000	0.590000	0.500000	
50%	3855.500000	NaN	NaN	7.625000	3.755000	10.265000	
75%	5869.750000	NaN	NaN	18.757500	12.200000	32.075000	
max	503380.000000	NaN	NaN	85.600000	100.000000	100.000000	

Number of Rows and Columns in Database

In [37]:
```
print('rows',food_data_df.shape, 'columns')
```

```
rows (5690, 12) columns
```

Total unique elements in each category

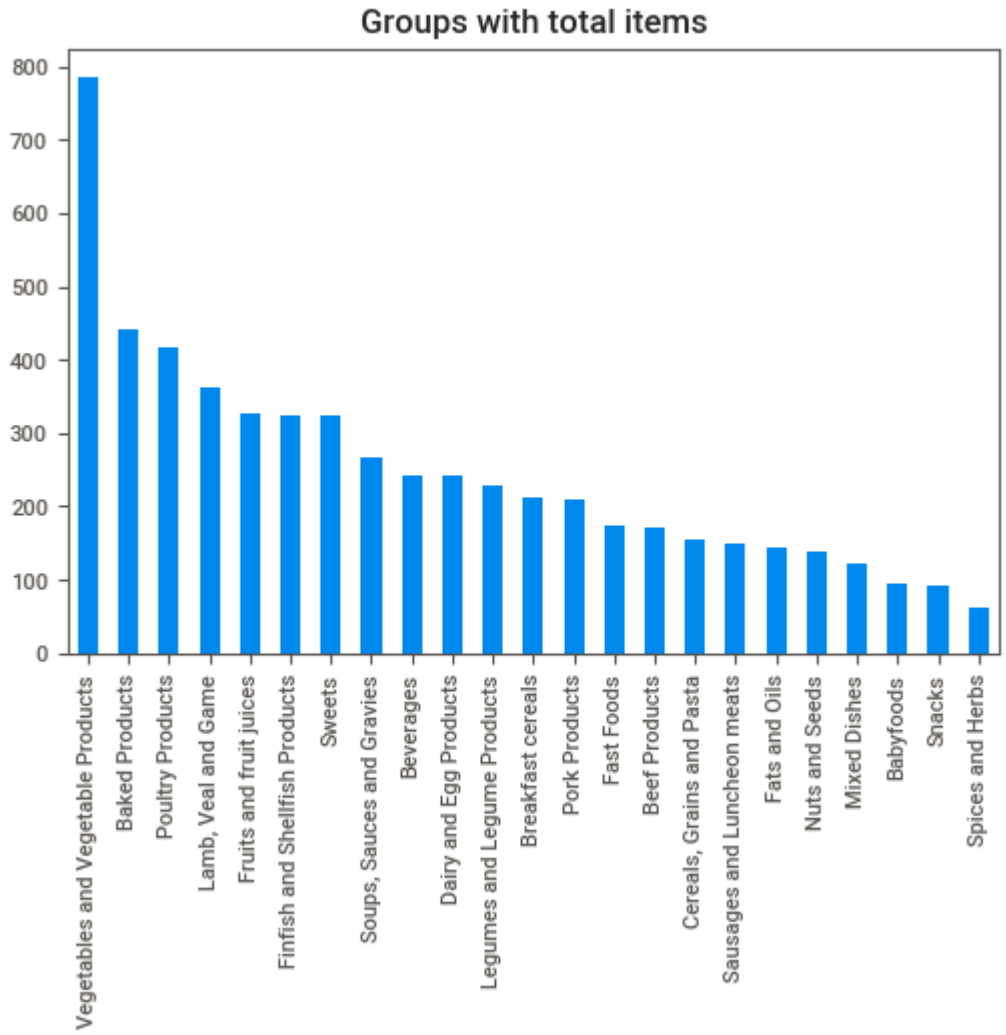
In [38]:
```
print(food_data_df.nunique())
```

```
FoodID             5690
FoodDescription    5689
FoodGroup            23
PROTValue          2261
FATValue           1913
CARBValue          2756
STARValue           360
TSUGValue          1505
TDFValue            237
TSATValue          2812
MUFAValue          2880
PUFAValue          2381
dtype: int64
```

Total number of groups for different food along with number of contents in each category of group

In [39]:
```
food_data_df['FoodGroup'].value_counts().plot.bar(title='Groups with total items')
```

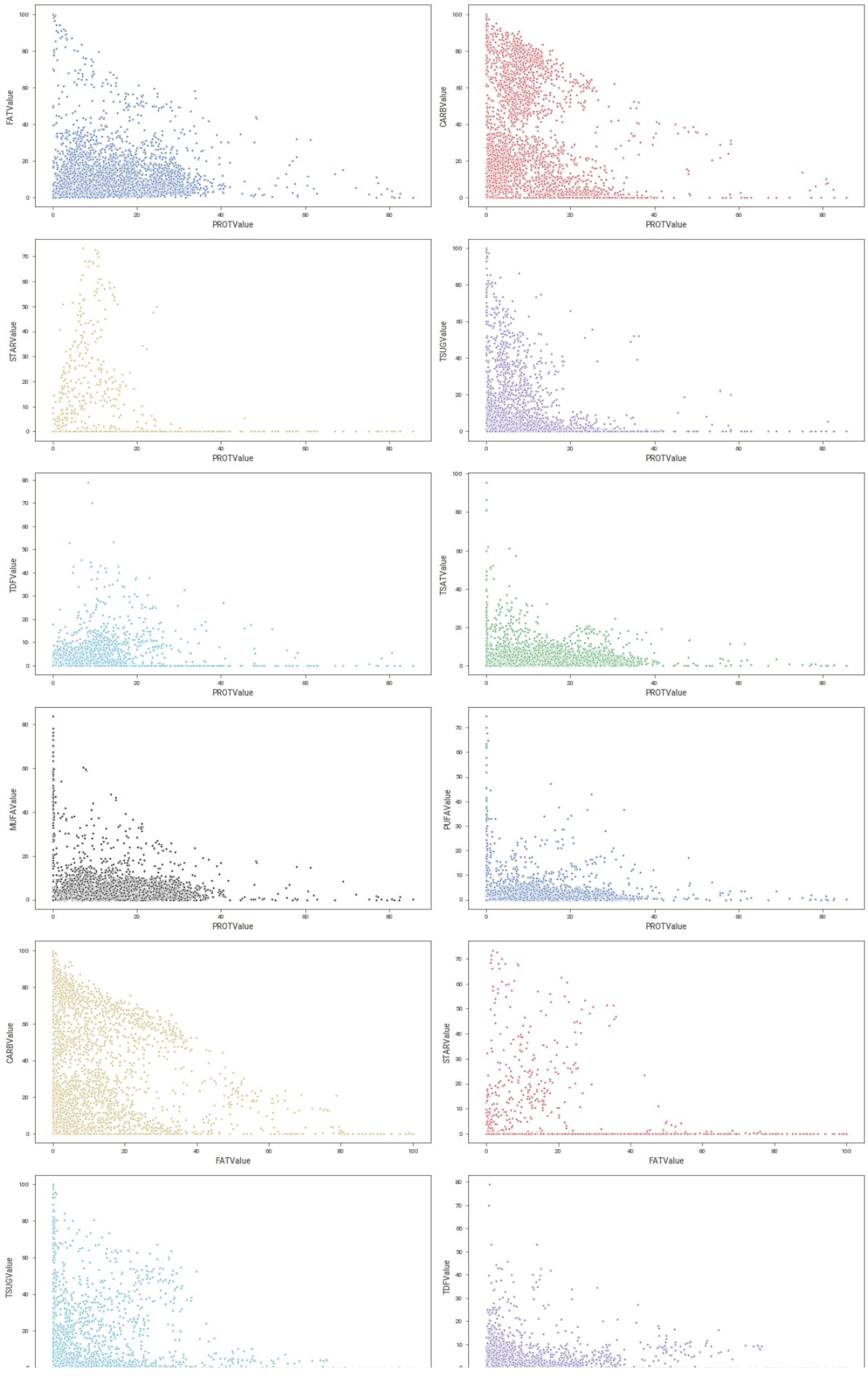
Out[39]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x212c29384c0>
```



In [40]:
```
df = AV.AutoViz('FoodNutritionData.csv')
```

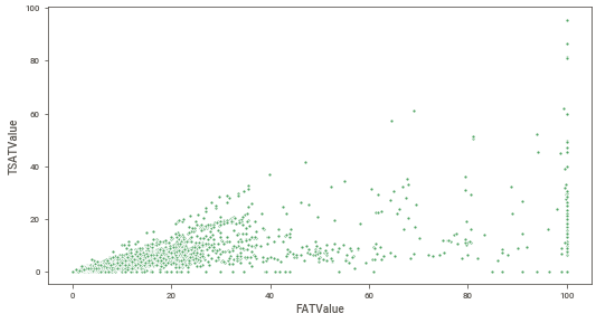
```
Shape of your Data Set: (5690, 12)
############### C L A S S I F Y I N G  V A R I A B L E S  ####################
Classifying variables in data set...
    Number of Numeric Columns =  9
    Number of Integer-Categorical Columns =  0
    Number of String-Categorical Columns =  1
    Number of Factor-Categorical Columns =  0
    Number of String-Boolean Columns =  0
    Number of Numeric-Boolean Columns =  0
    Number of Discrete String Columns =  1
    Number of NLP String Columns =  0
    Number of Date Time Columns =  0
    Number of ID Columns =  1
    Number of Columns to Delete =  0
    12 Predictors classified...
        This does not include the Target column(s)
        2 variables removed since they were ID or low-information variables
Number of All Scatter Plots = 45
```

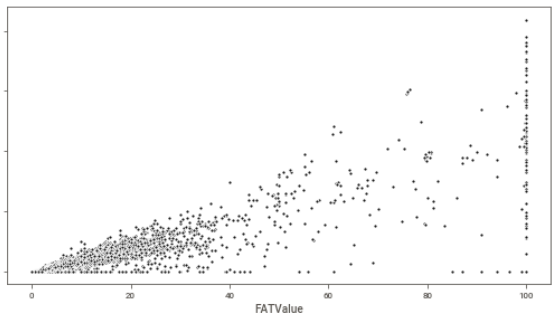
Pair-wise Scatter Plot of all Continuous Variables

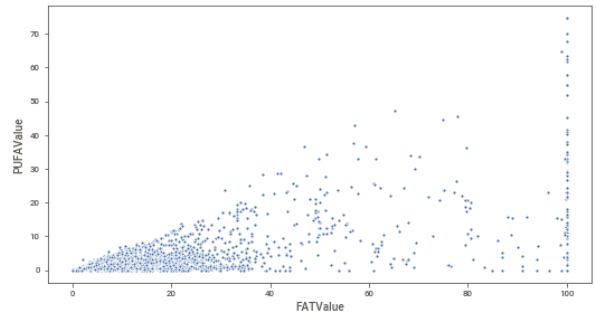


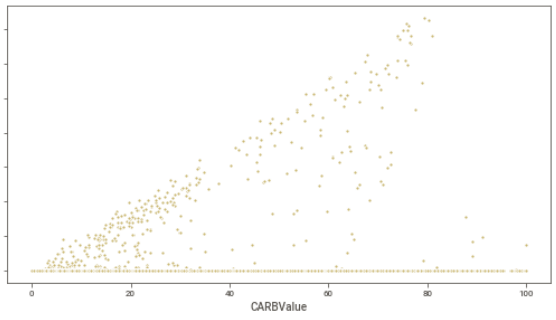

FATValue

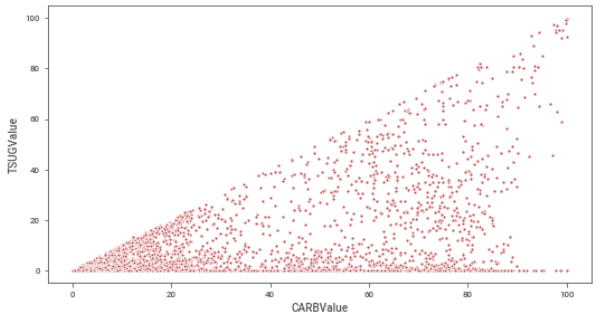

FATValue

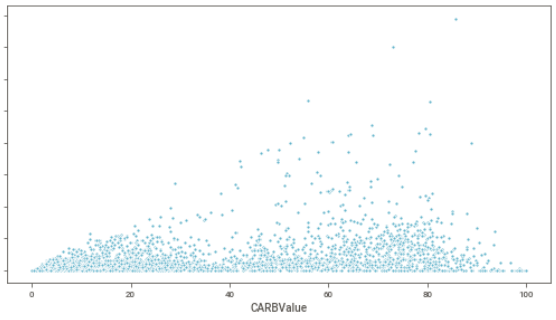

TSATValue
FATValue

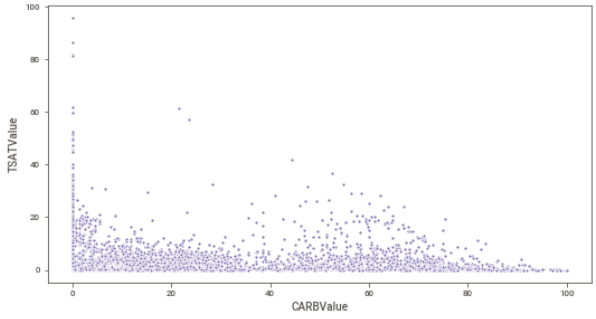

MUFAValue
FATValue

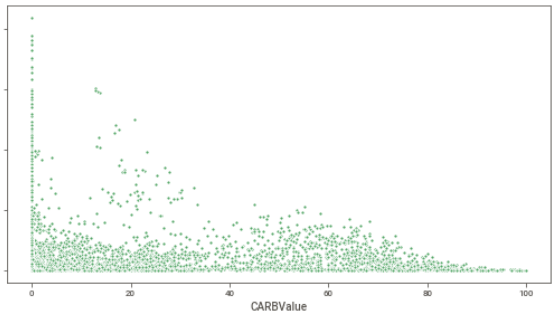

PUFAValue
FATValue

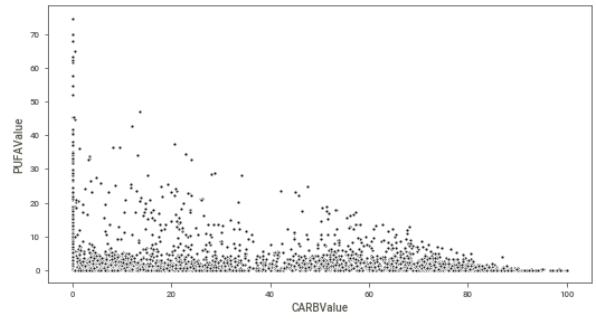

STARValue
CARBValue

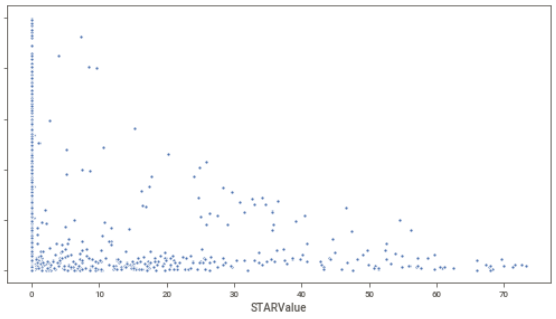

TSUGValue
CARBValue

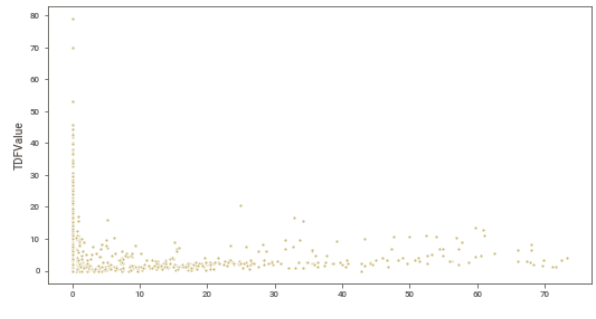

TDFValue
CARBValue

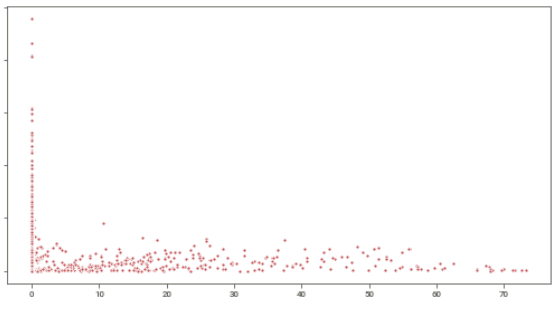

TSATValue
CARBValue

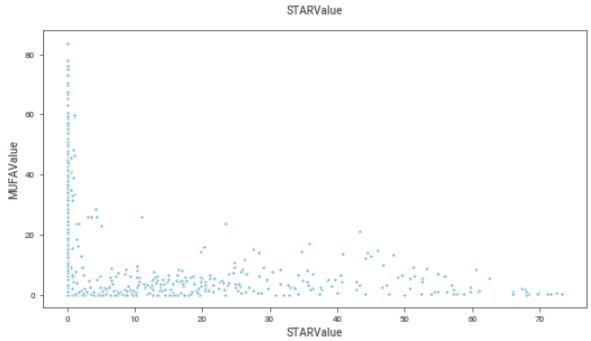

MUFAValue
CARBValue

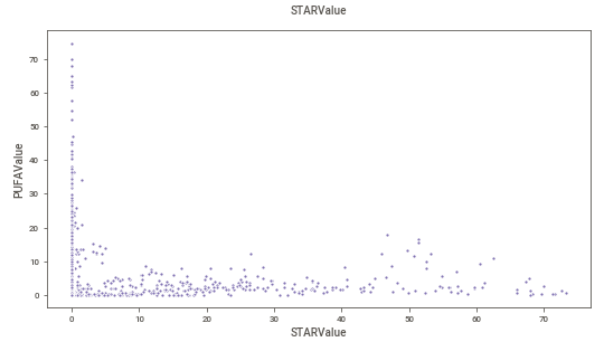

PUFAValue
CARBValue

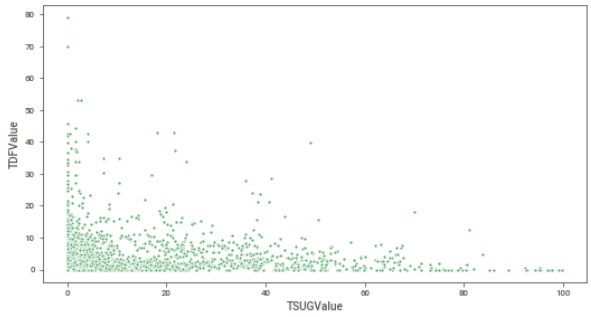

TSUGValue
STARValue

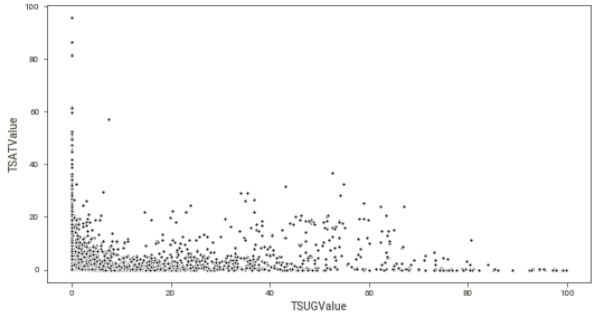

TDFValue

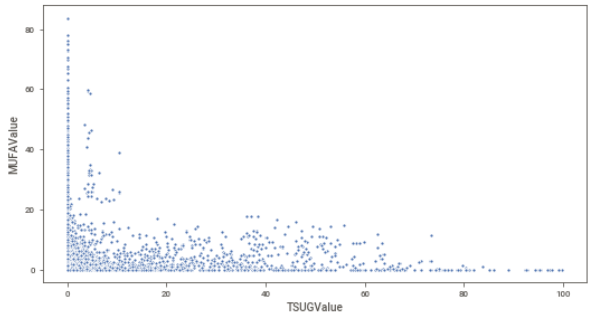

TSATValue

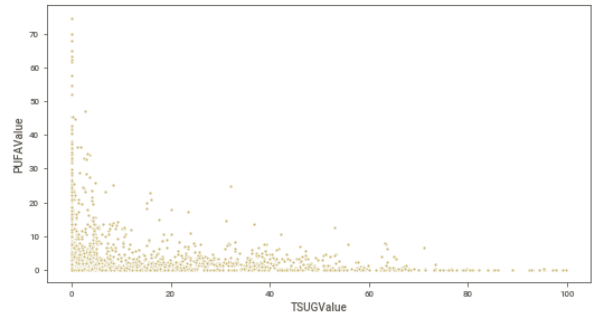

STARValue
MUFAValue
STARValue

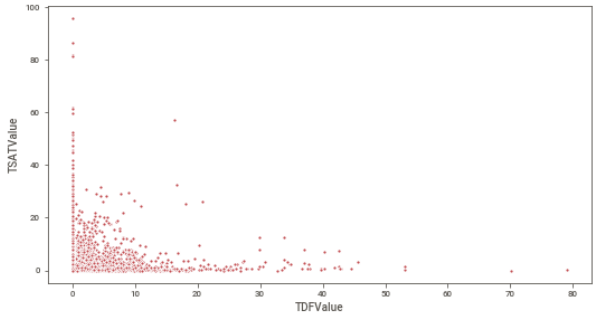

STARValue
PUFAValue
STARValue

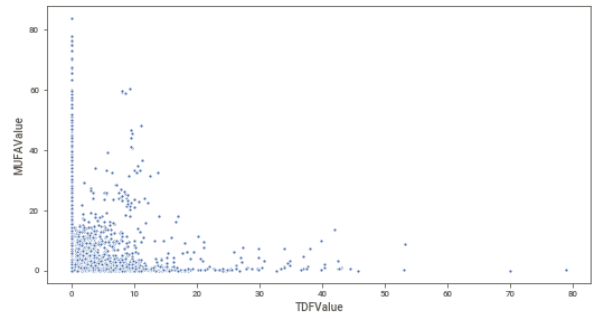

TDFValue
TSUGValue

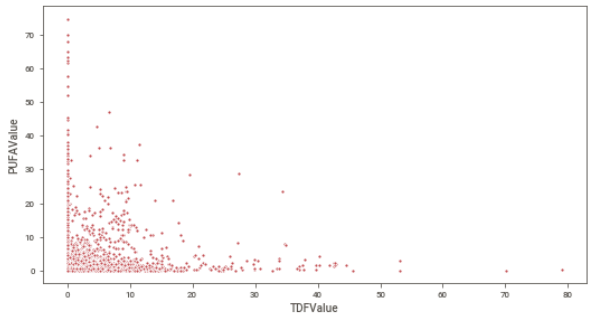

TSATValue
TSUGValue

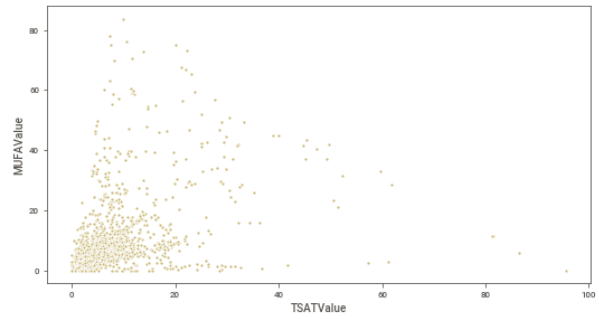

MUFAValue
TSUGValue

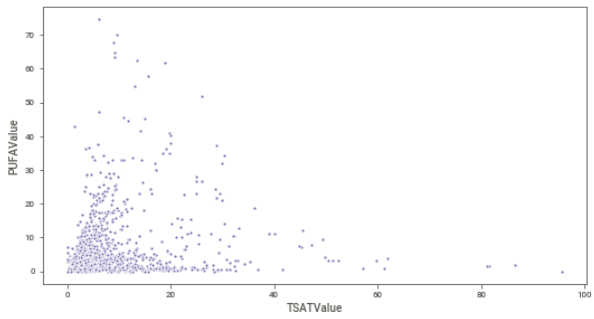

PUFAValue
TSUGValue

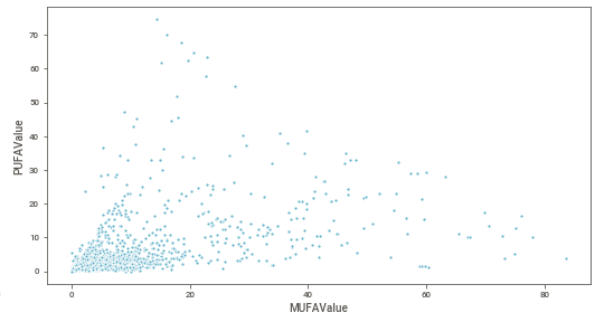

TSATValue
TDFValue

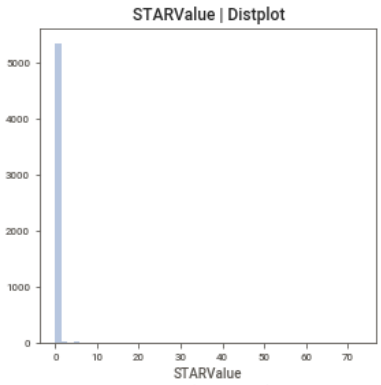

MUFAValue
TDFValue

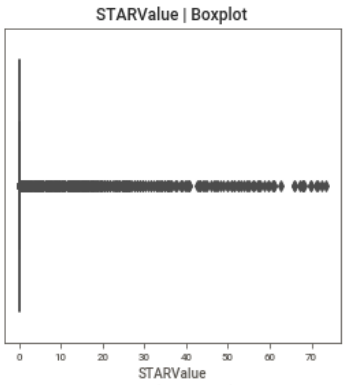

PUFAValue
TDFValue

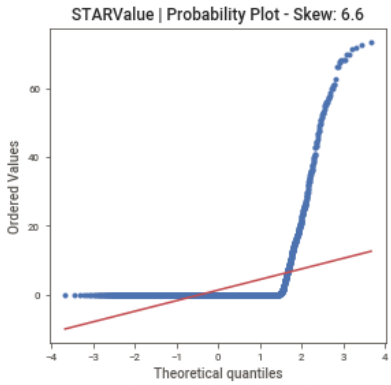

MUFAValue
TSATValue

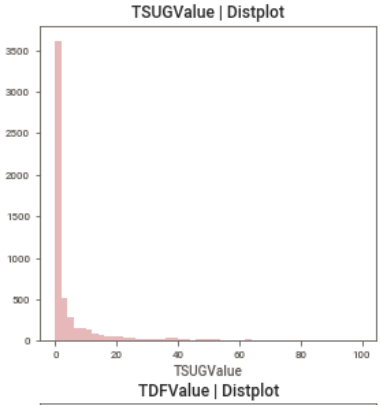

PUFAValue
TSATValue

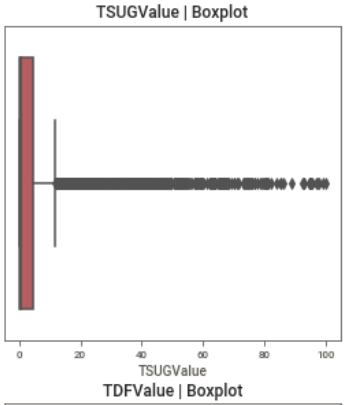

PUFAValue
MUFAValue

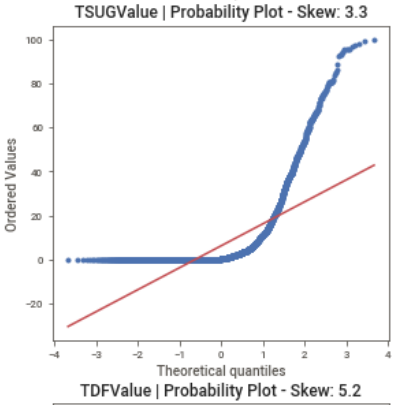

STARValue | Distplot
STARValue

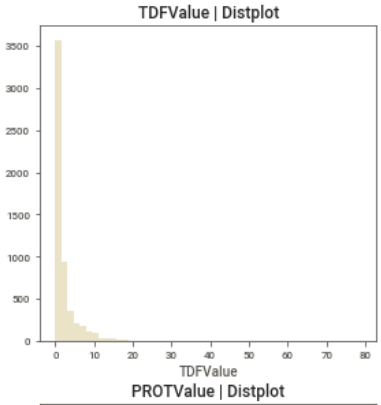

STARValue | Boxplot
STARValue

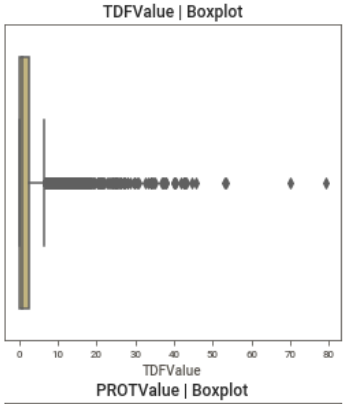

STARValue | Probability Plot - Skew: 6.6
Ordered Values
Theoretical quantiles

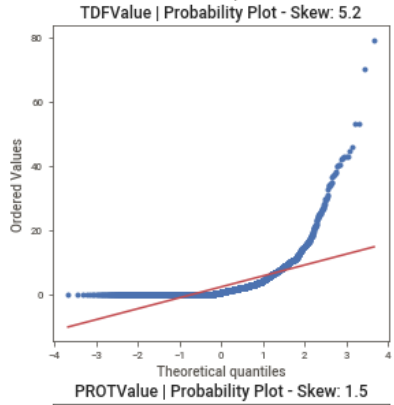

TSUGValue | Distplot
TSUGValue

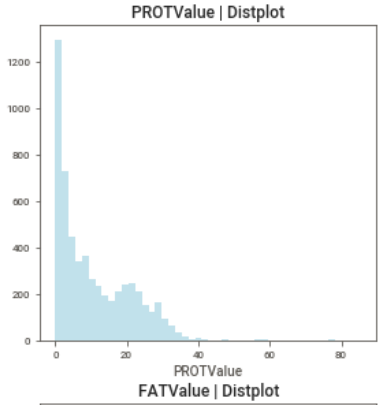

TSUGValue | Boxplot
TSUGValue

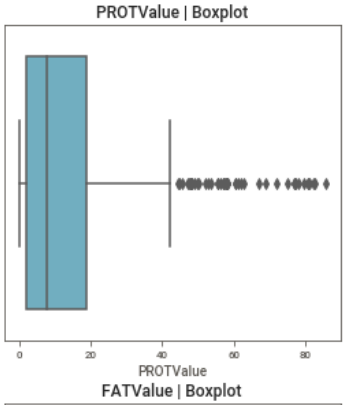

TSUGValue | Probability Plot - Skew: 3.3
Ordered Values
Theoretical quantiles

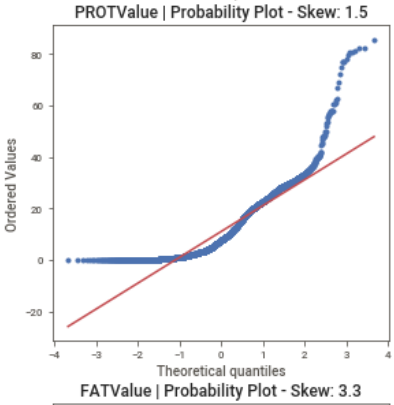

TDFValue | Distplot
TDFValue

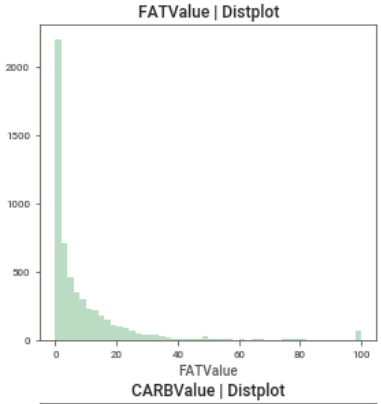

TDFValue | Boxplot
TDFValue

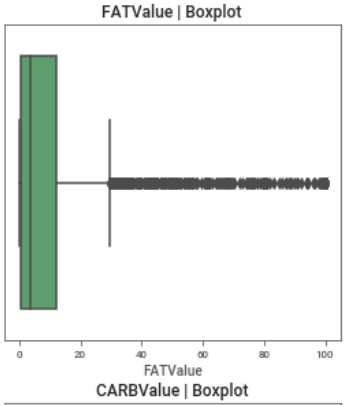

TDFValue | Probability Plot - Skew: 5.2
Ordered Values
Theoretical quantiles

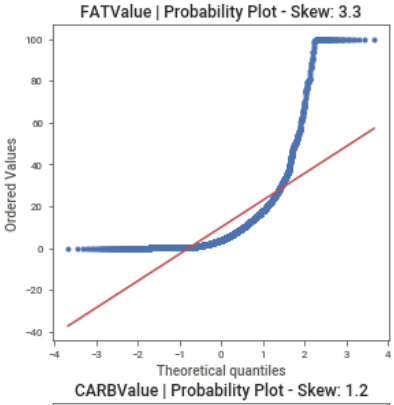

PROTValue | Distplot
PROTValue

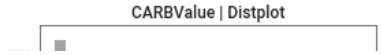

PROTValue | Boxplot
PROTValue


PROTValue | Probability Plot - Skew: 1.5
Ordered Values
Theoretical quantiles

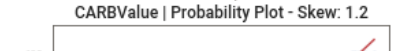

FATValue | Distplot
FATValue

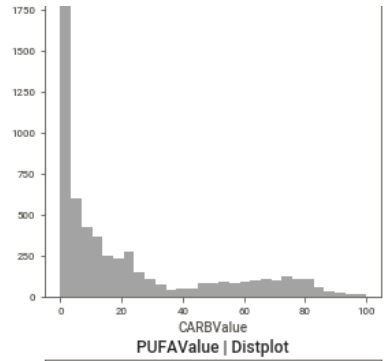

FATValue | Boxplot
FATValue

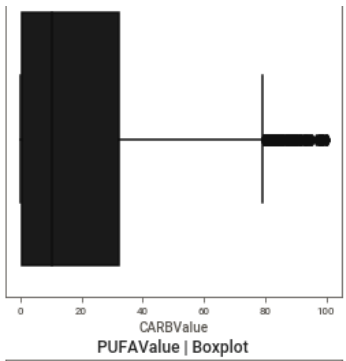

FATValue | Probability Plot - Skew: 3.3
Ordered Values
Theoretical quantiles

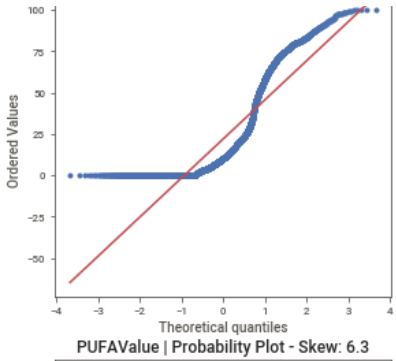

CARBValue | Distplot


CARBValue | Boxplot

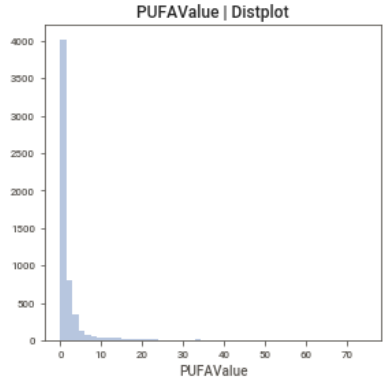

CARBValue | Probability Plot - Skew: 1.2



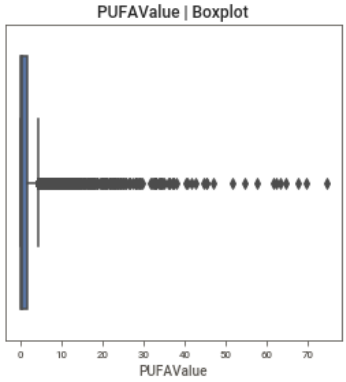




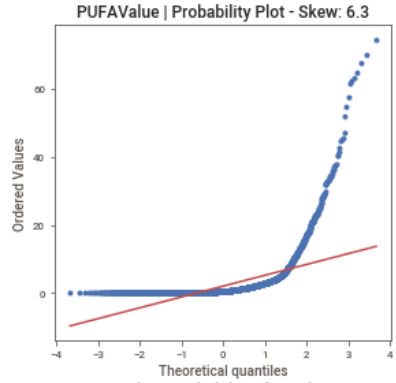
PUFAValue | Distplot



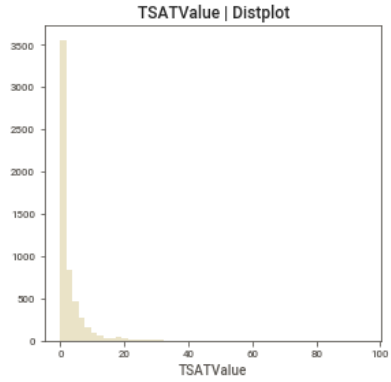
PUFAValue | Boxplot



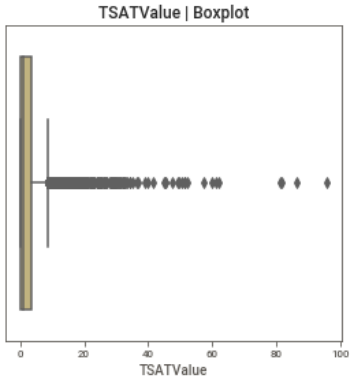
PUFAValue | Probability Plot - Skew: 6.3



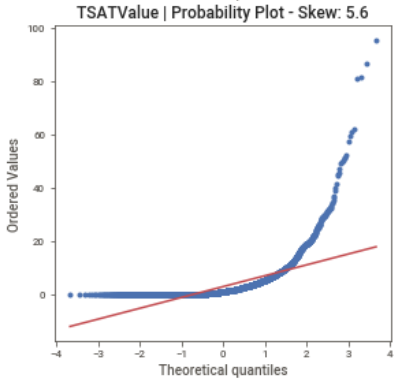
TSATValue | Distplot



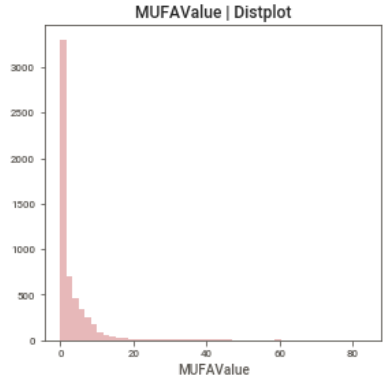
TSATValue | Boxplot



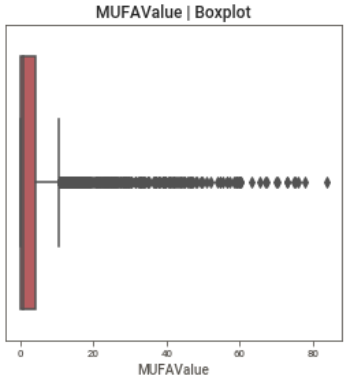
TSATValue | Probability Plot - Skew: 5.6



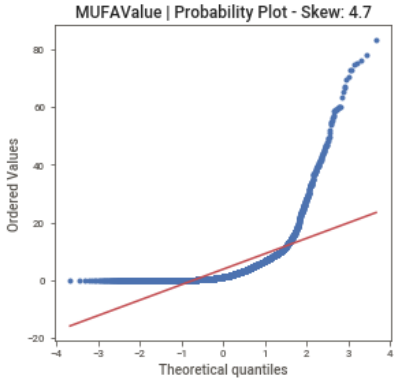
MUFAValue | Distplot



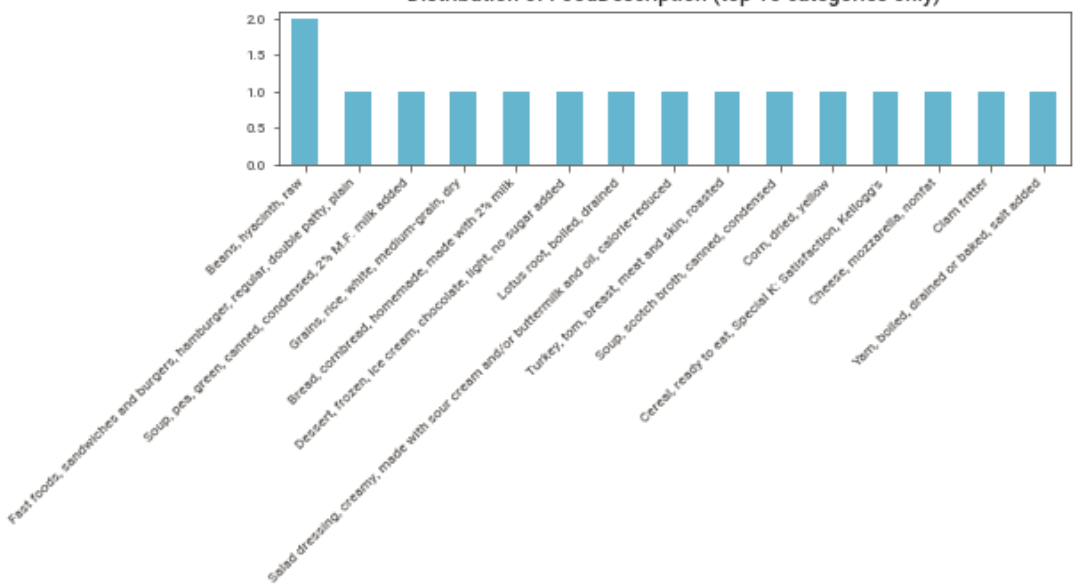
MUFAValue | Boxplot

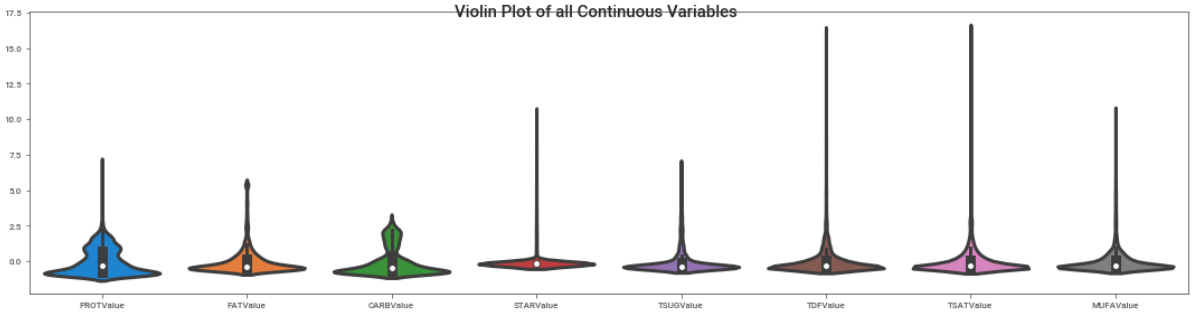


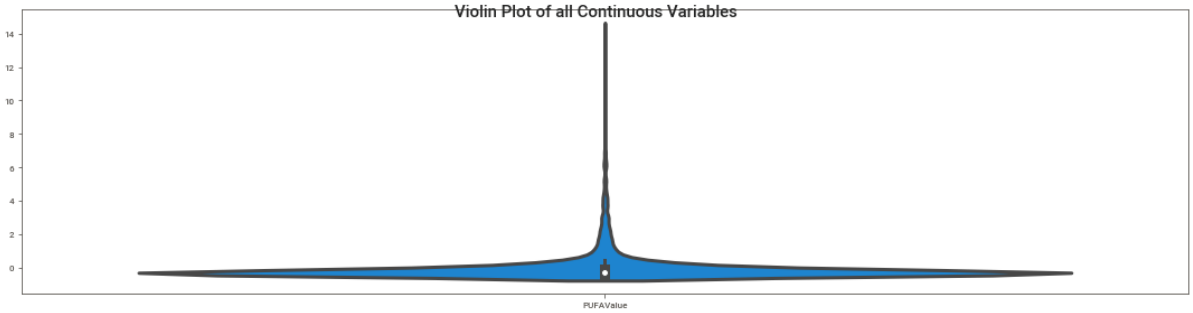
MUFAValue | Probability Plot - Skew: 4.7

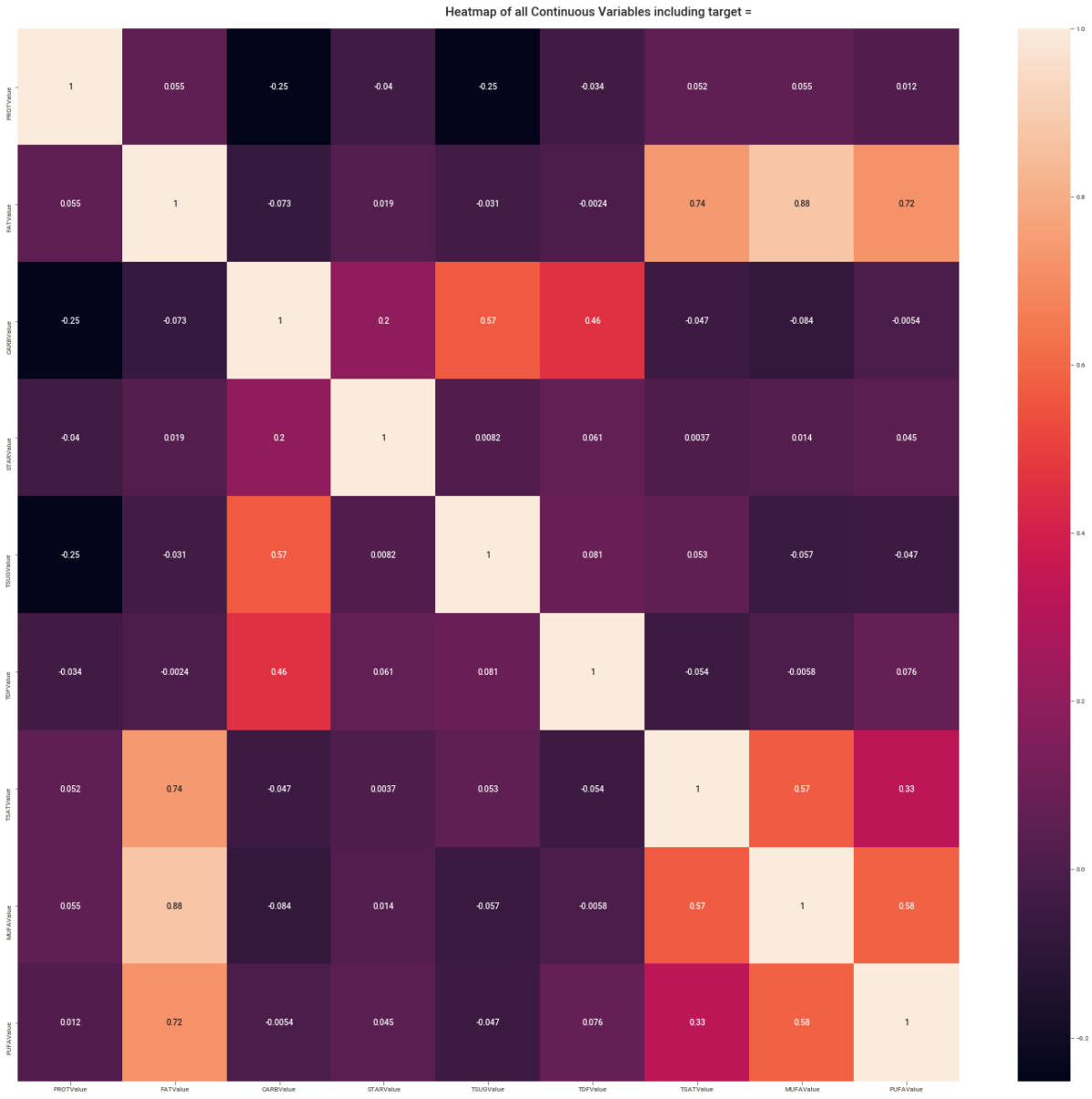


Histograms (KDE plots) of all Continuous Variables

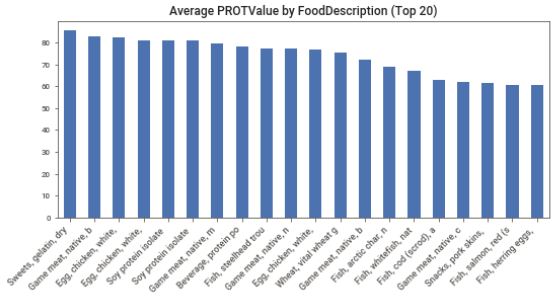


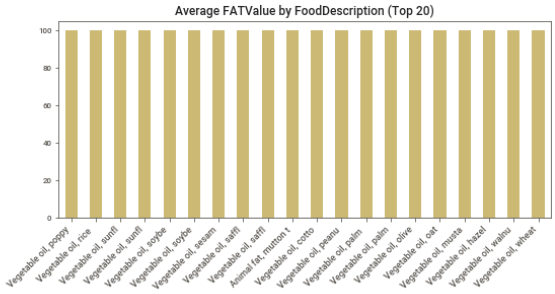


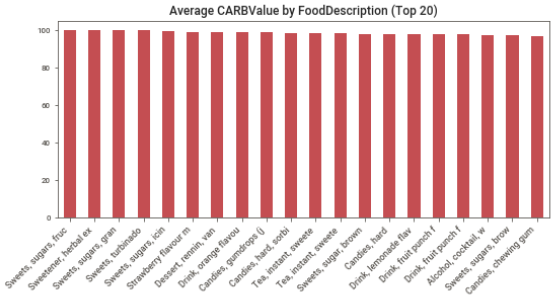


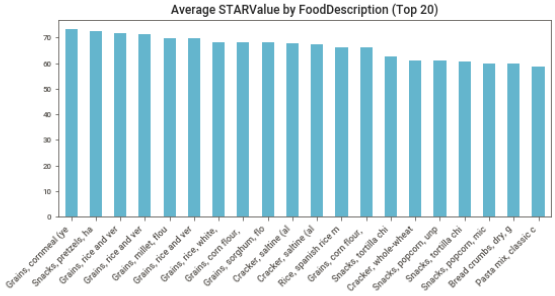

Heatmap of all Continuous Variables including target =
PROTValue
FATValue
CARBValue
STARValue
TSUGValue
TDFValue
TSATValue
MUFAValue
PUFAValue
1 0.055 -0.25 -0.04 -0.25 -0.034 0.052 0.055 0.012
0.055 1 -0.073 0.019 -0.031 -0.0024 0.74 0.88 0.72
-0.25 -0.073 1 0.2 0.57 0.46 -0.047 -0.084 -0.0054
-0.04 0.019 0.2 1 0.0082 0.061 0.0037 0.014 0.045
-0.25 -0.031 0.57 0.0082 1 0.081 0.053 -0.057 -0.047
-0.034 -0.0024 0.46 0.061 0.081 1 -0.054 -0.0058 0.076
0.052 0.74 -0.047 0.0037 0.053 -0.054 1 0.57 0.33
0.055 0.88 -0.084 0.014 -0.057 -0.0058 0.57 1 0.58
0.012 0.72 -0.0054 0.045 -0.047 0.076 0.33 0.58 1
1.0
0.8
0.6
0.4
0.2
0.0
-0.2

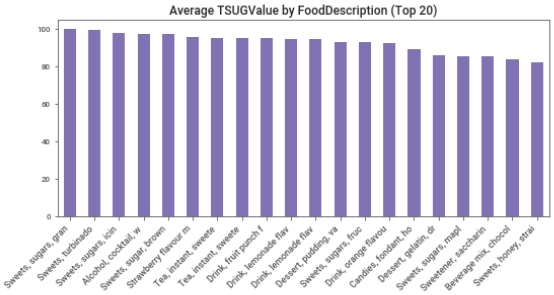
Bar plots for each Continuous by each Categorical variable

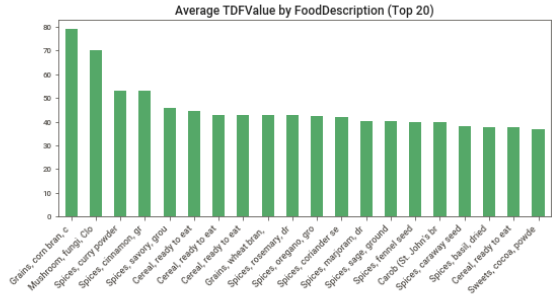


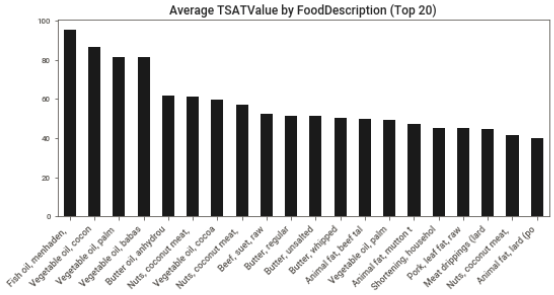


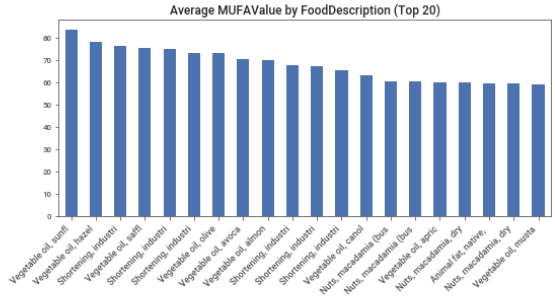


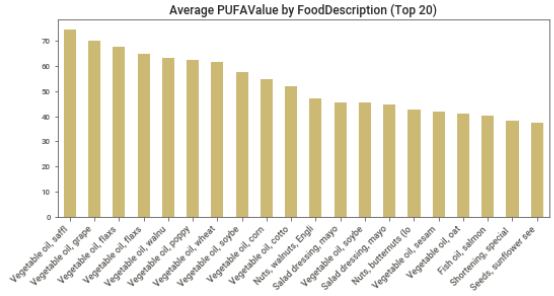








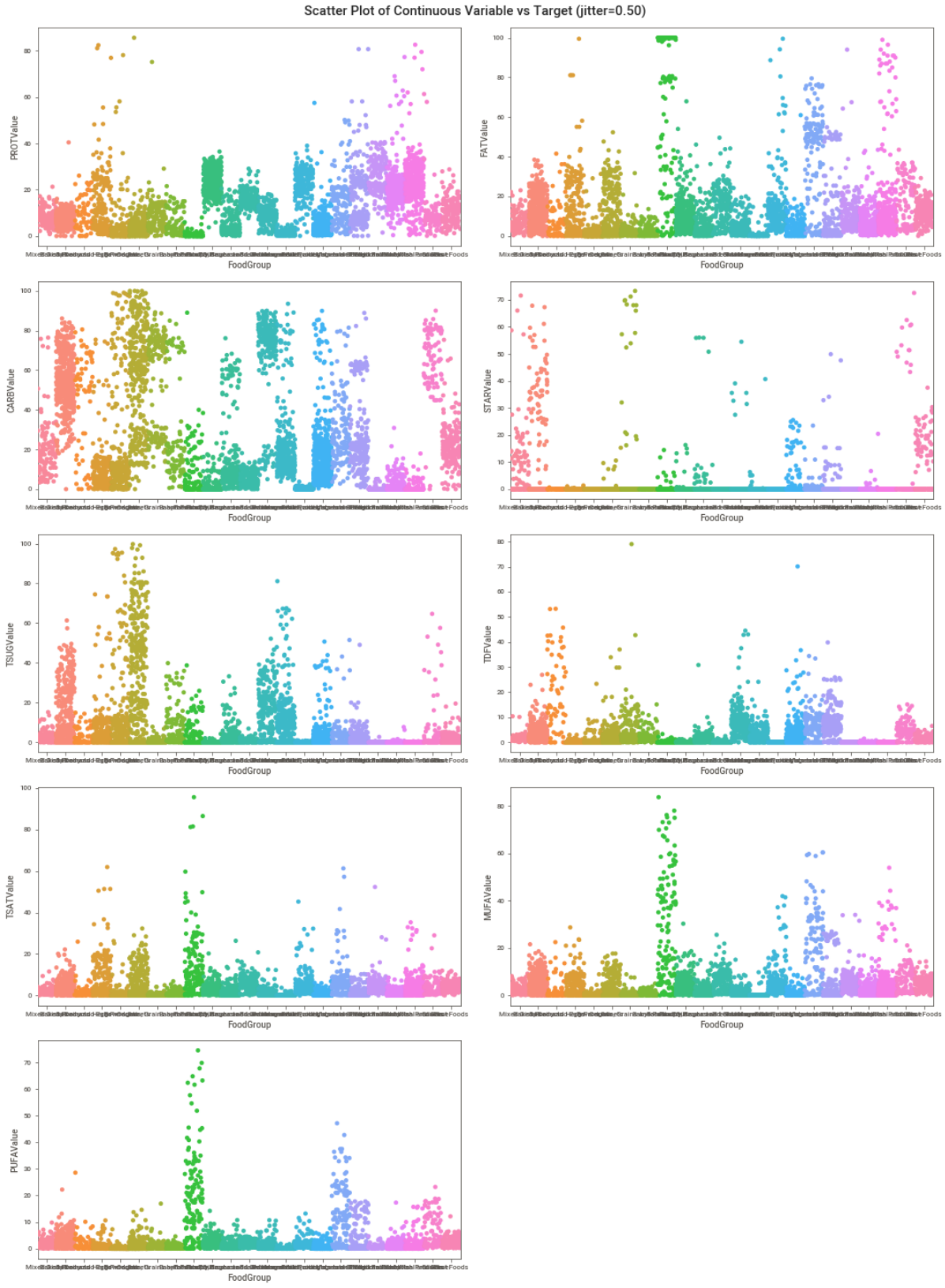





```
Time to run AutoViz (in seconds) = 10.098

 ######################## VISUALIZATION Completed ########################
```

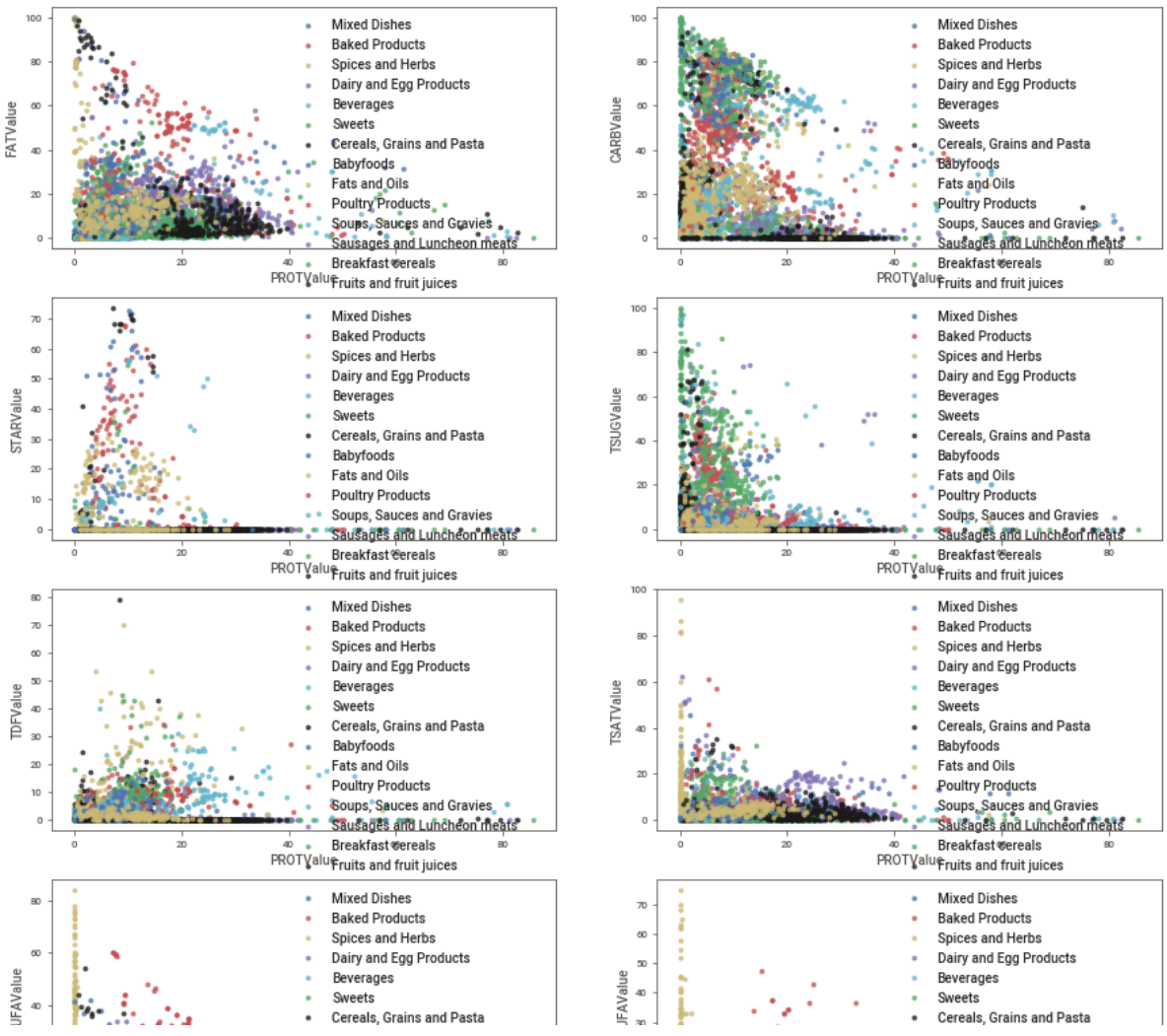
In [41]:
```
f = AV.AutoViz('FoodNutritionData.csv', depVar='FoodGroup')
```

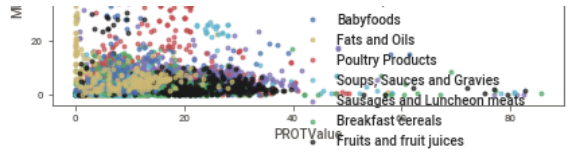
```
Shape of your Data Set: (5690, 12)
############## C L A S S I F Y I N G  V A R I A B L E S  ####################
Classifying variables in data set...
    Number of Numeric Columns =  9
    Number of Integer-Categorical Columns =  0
    Number of String-Categorical Columns =  1
    Number of Factor-Categorical Columns =  0
    Number of String-Boolean Columns =  0
    Number of Numeric-Boolean Columns =  0
    Number of Discrete String Columns =  0
    Number of NLP String Columns =  0
    Number of Date Time Columns =  0
    Number of ID Columns =  1
    Number of Columns to Delete =  0
    11 Predictors classified...
        This does not include the Target column(s)
        1 variables removed since they were ID or low-information variables

################ Multi_Classification VISUALIZATION Started #################
####
```

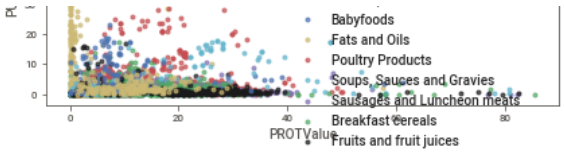


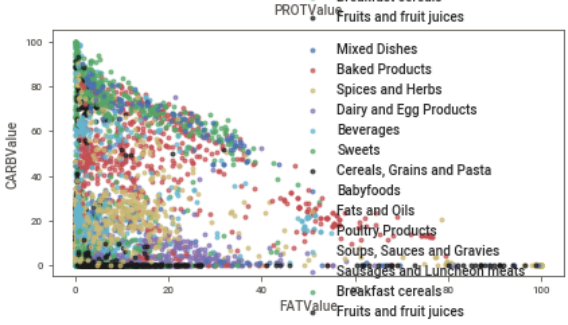
Total Number of Scatter Plots = 45

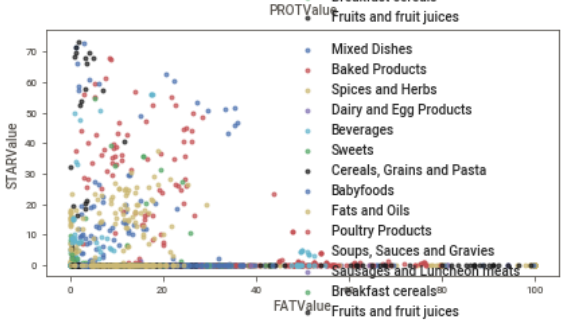
Pair-wise Scatter Plot of all Continuous Variables

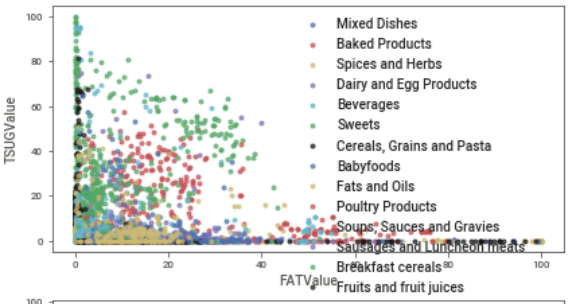


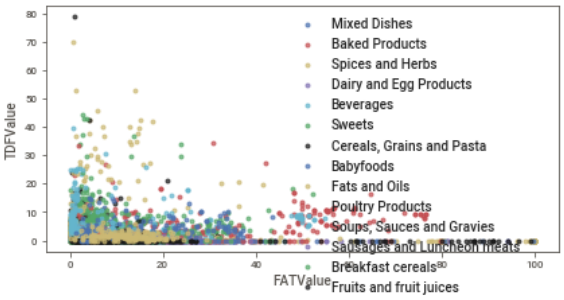

PROTValue
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices

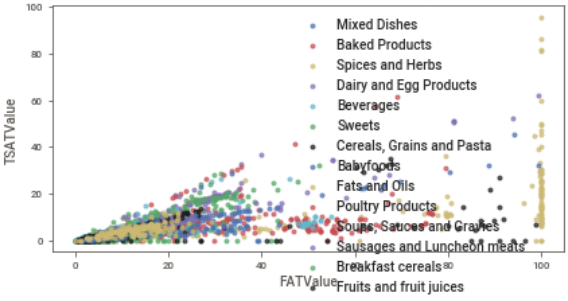

PROTValue
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices

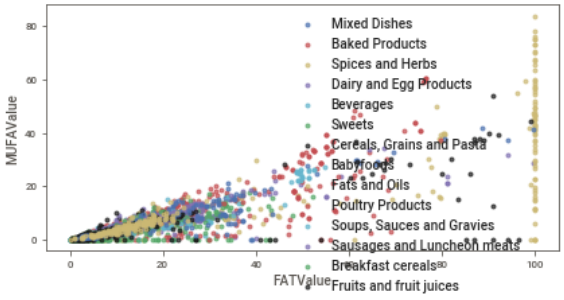

CARBValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices

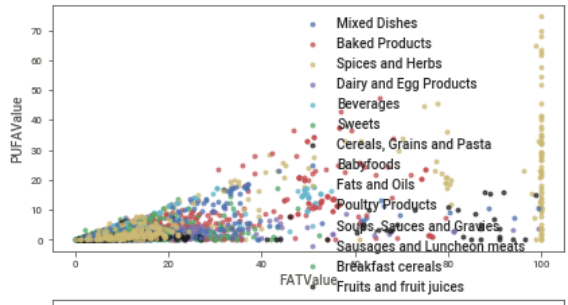

STARValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices

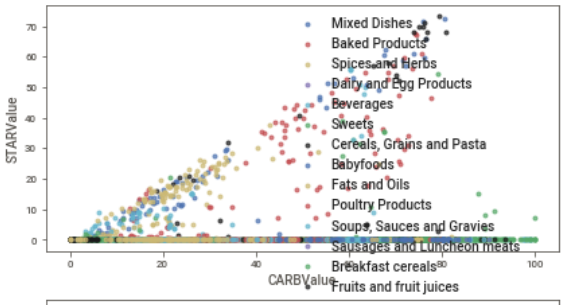

TSUGValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


TDFValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


TSATValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


MUFAValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


PUFAValue
FATValue
Mixed Dishes
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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CARBValue
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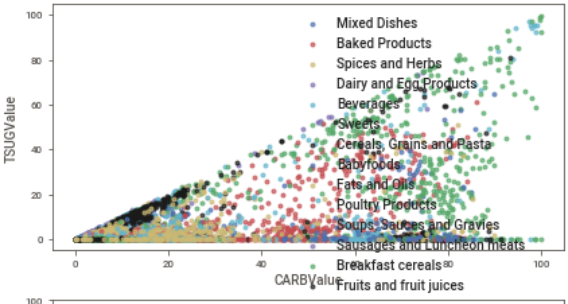
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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CARBValue
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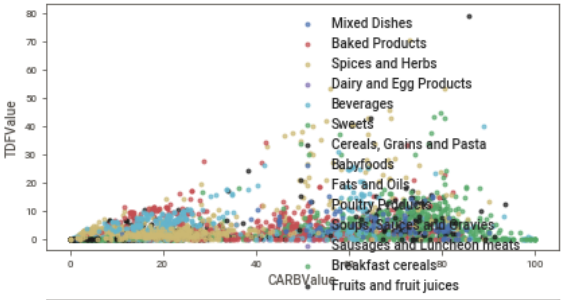
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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CARBValue
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Dairy and Egg Products
Beverages
Sweets
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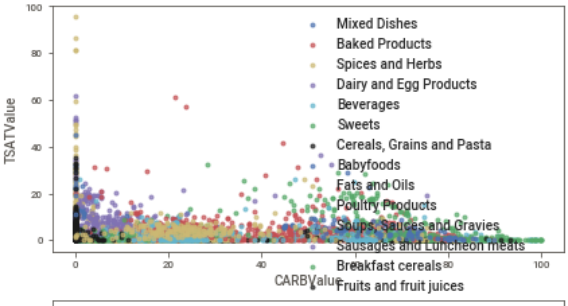
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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Dairy and Egg Products
Beverages
Sweets
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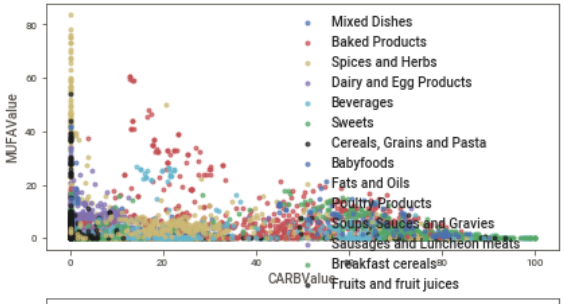
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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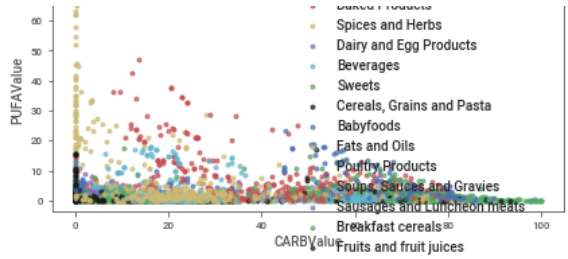
Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


Mixed Dishes
Baked Products


Mixed Dishes
Baked Products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CARBValue
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Dairy and Egg Products
Beverages
Sweets
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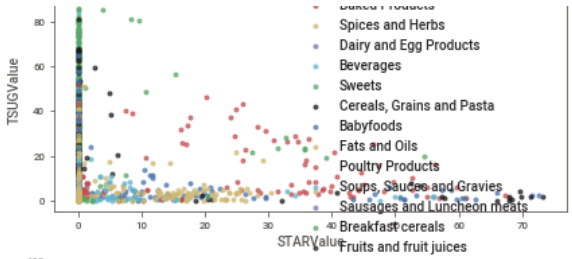
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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STARValue
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Beverages
Sweets
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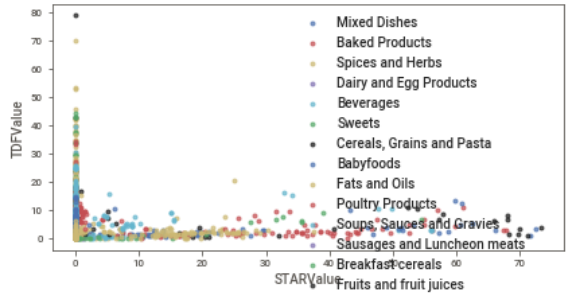
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
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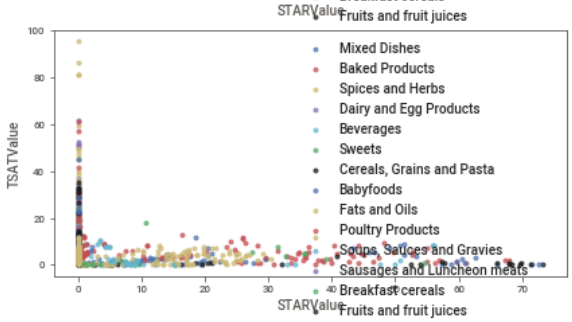
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


TSATValue
STARValue
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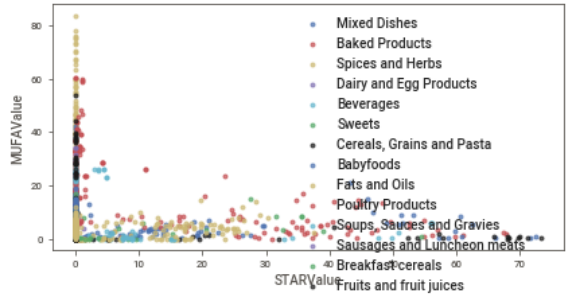
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


MUFAValue
STARValue
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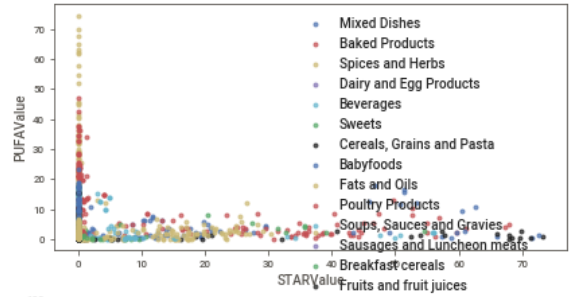
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


PUFAValue
STARValue
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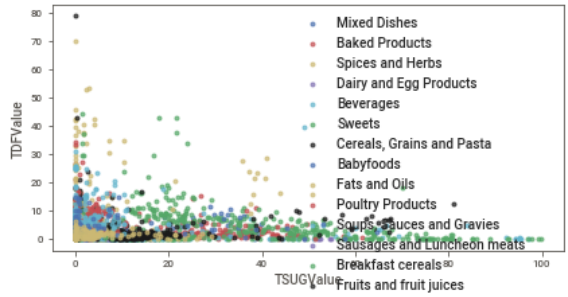
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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Baked Products
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Dairy and Egg Products
Beverages
Sweets
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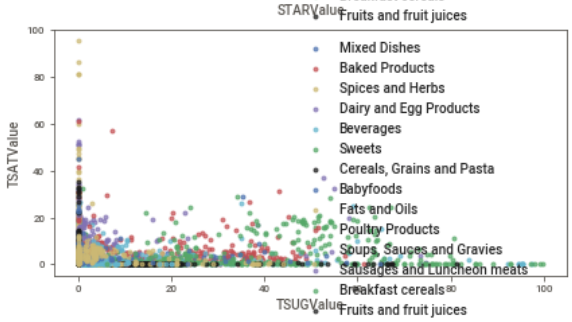
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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TSUGValue
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Baked Products
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
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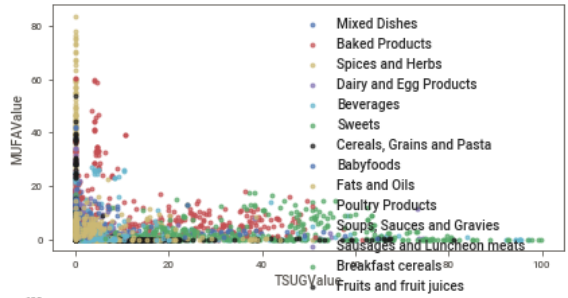
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


MUFAValue
TSUGValue
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Baked Products
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Dairy and Egg Products
Beverages
Sweets
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Fats and Oils
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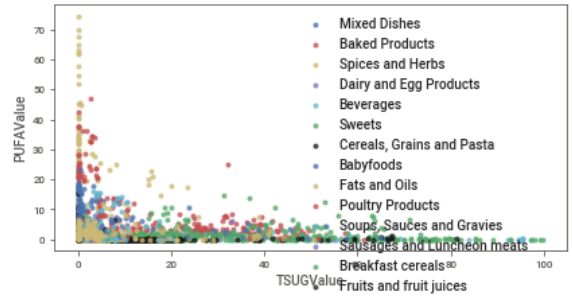
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


PUFAValue
TSUGValue
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Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
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Fats and Oils
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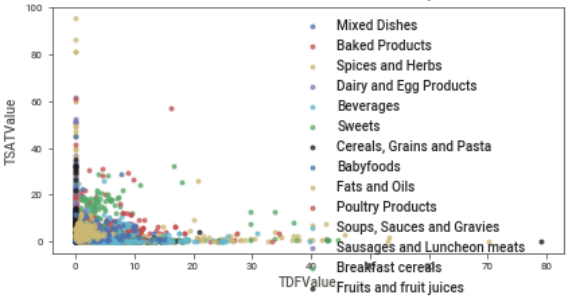
Breakfast cereals
Fruits and fruit juices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Beverages
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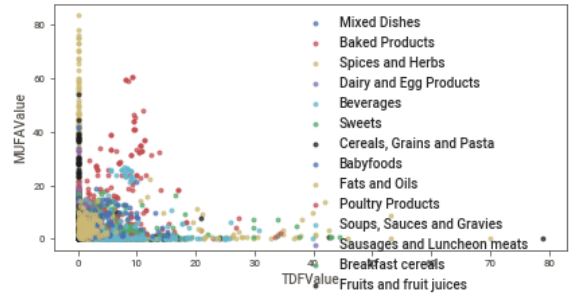
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices


MUFAValue
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Beverages
Sweets
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Fats and Oils
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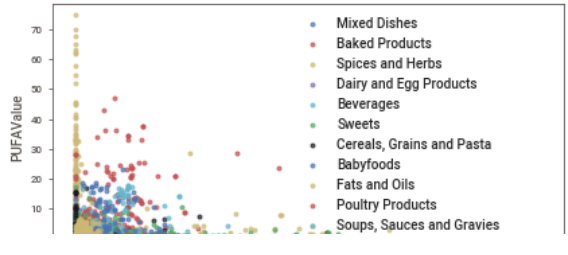
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices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Beverages
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Cereals, Grains and Pasta
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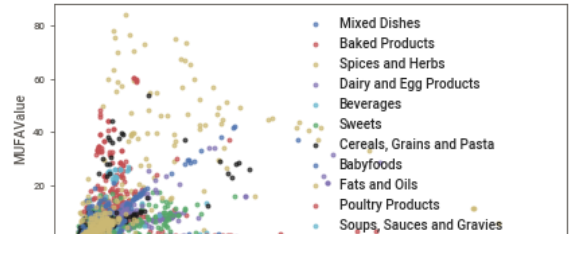
Soups, Sauces and Gravies


MUFAValue
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Cereals, Grains and Pasta
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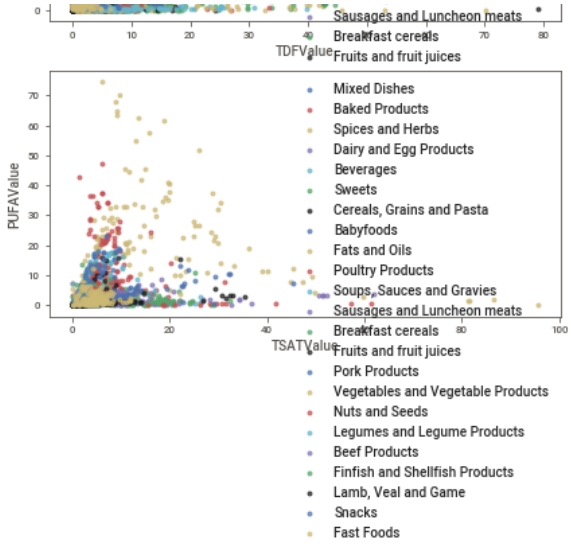
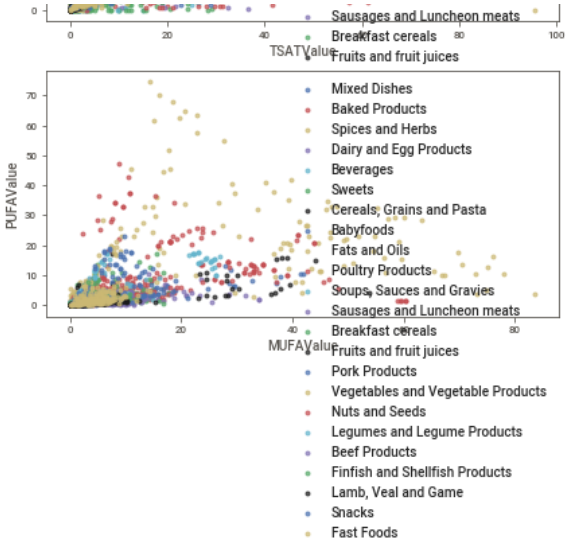
Fats and Oils
Poultry Products
Soups, Sauces and Gravies





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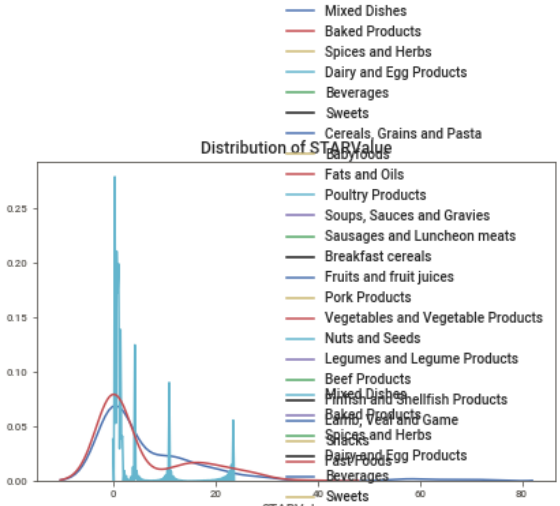
Distribution of STARValue
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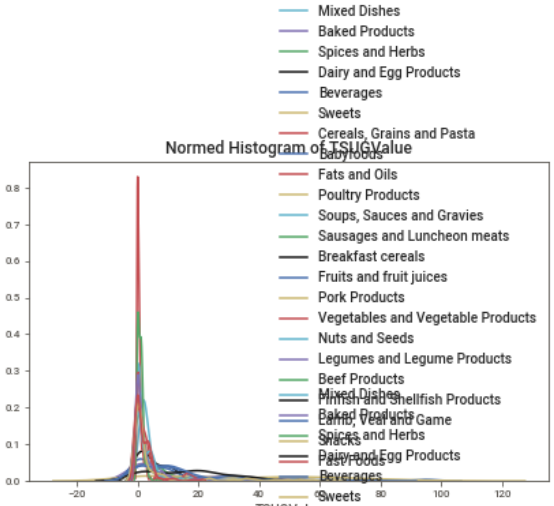
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
Vegetables and Vegetable Products
Nuts and Seeds
Legumes and Legume Products
Beef Products
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods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TSUGValue
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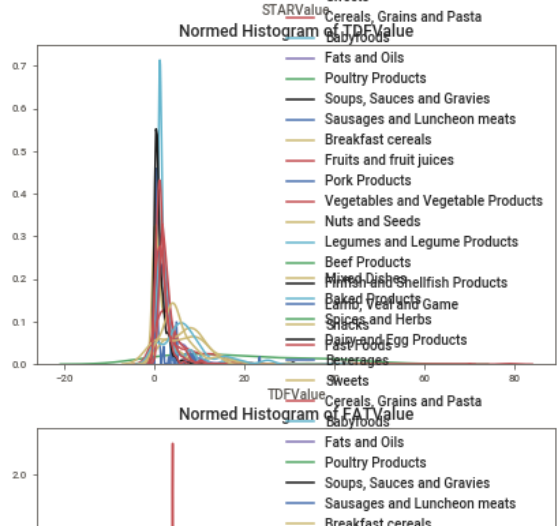
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
Vegetables and Vegetable Products
Nuts and Seeds
Legumes and Legume Products
Beef Products
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods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TDFEValue
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Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
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Nuts and Seeds
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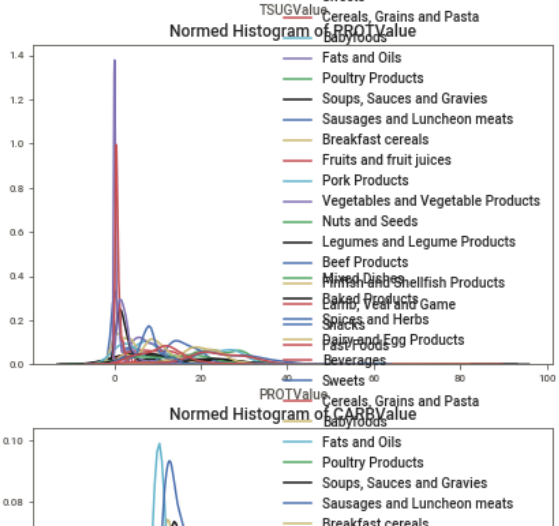
Beef Products
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods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PROTValue
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Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
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Nuts and Seeds
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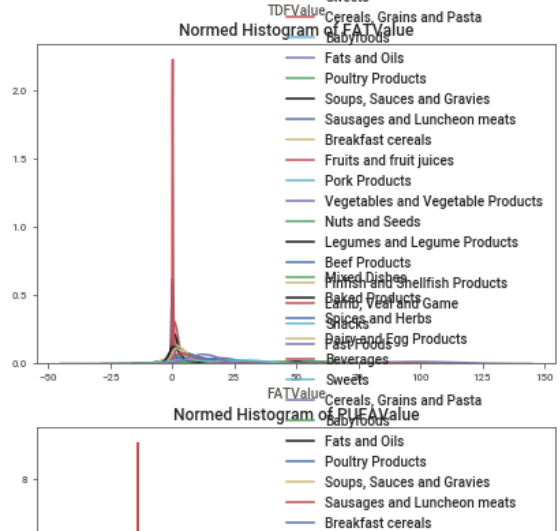
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods


Normed Histogram of FATValue
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Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
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Nuts and Seeds
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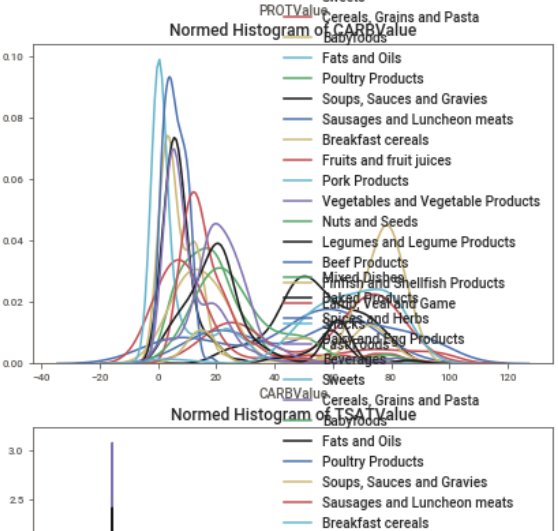
Lamb, Veal and Game
Snacks
Fast Foods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CARBValue
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Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
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Vegetables and Vegetable Products
Nuts and Seeds
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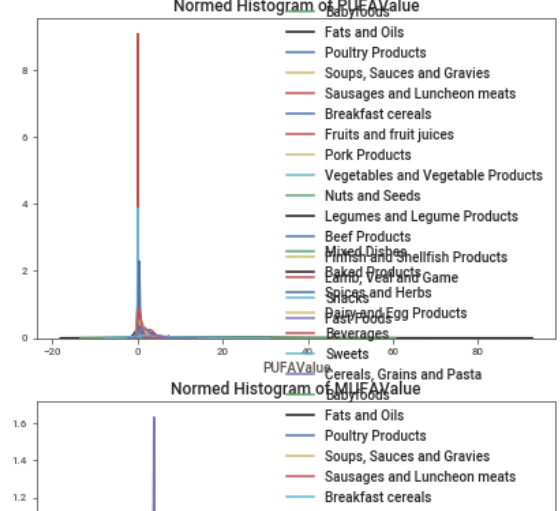
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods


Normed Histogram of PUFAValue
PUFAValue
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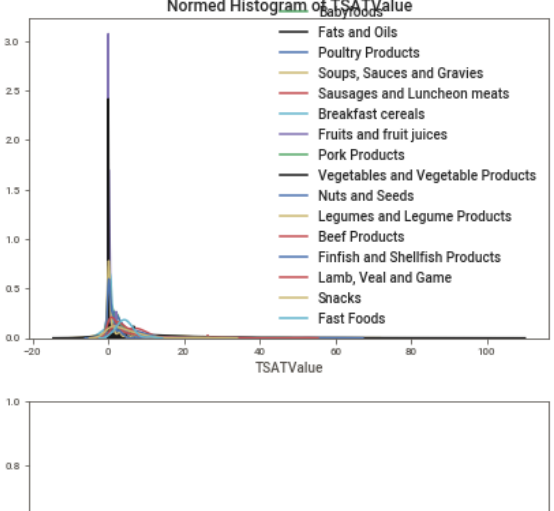
Spices and Herbs
Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
Babyfoods
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
Vegetables and Vegetable Products
Nuts and Seeds
Legumes and Legume Products
Beef Products
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods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TSATValue
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Dairy and Egg Products
Beverages
Sweets
Cereals, Grains and Pasta
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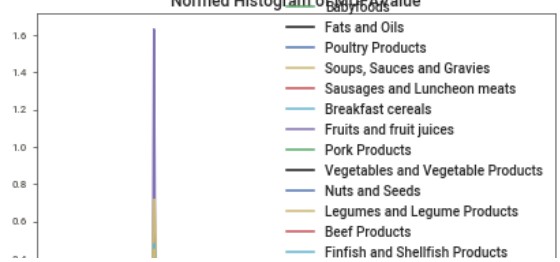
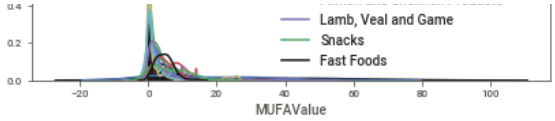
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
Vegetables and Vegetable Products
Nuts and Seeds
Legumes and Legume Products
Beef Products
Finfish and Shellfish Products
Lamb, Veal and Game
Snacks
Fast Foods


Normed Histogram of MUFAValue
Fats and Oils
Poultry Products
Soups, Sauces and Gravies
Sausages and Luncheon meats
Breakfast cereals
Fruits and fruit juices
Pork Products
Vegetables and Vegetable Products
Nuts and Seeds
Legumes and Legume Products
Beef Products
Finfish and Shellfish Products


0.4
0.2
0.0
Lamb, Veal and Game
Snacks
Fast Foods
−20
0
20
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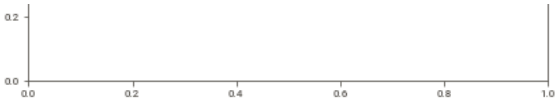
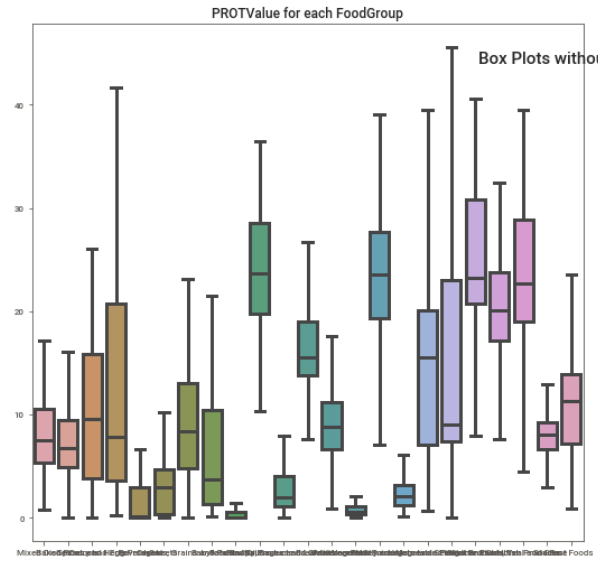
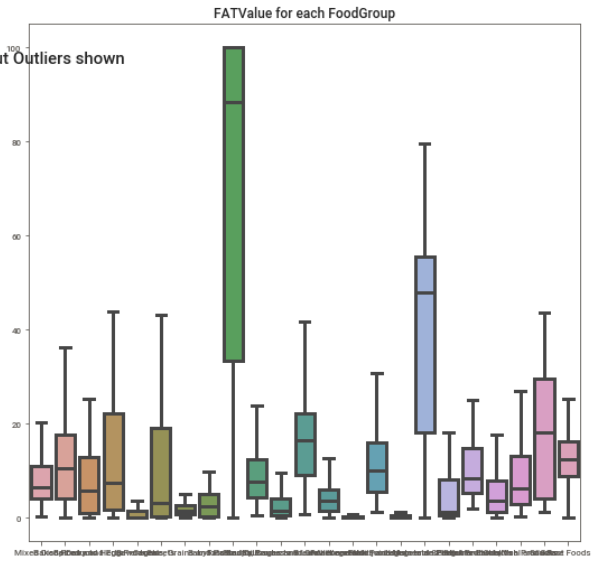
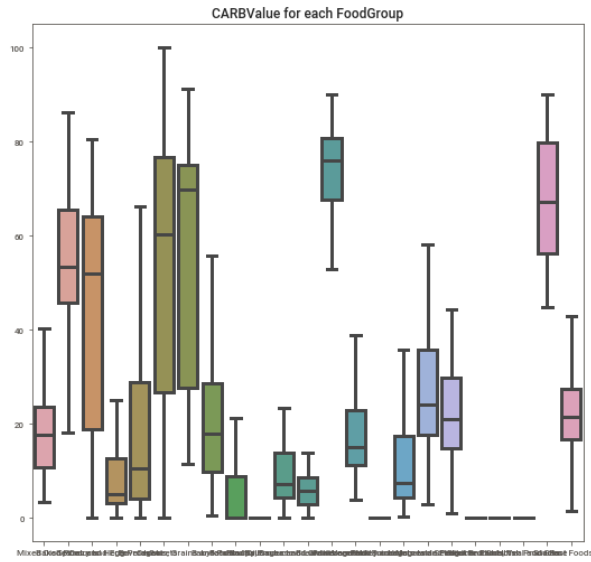
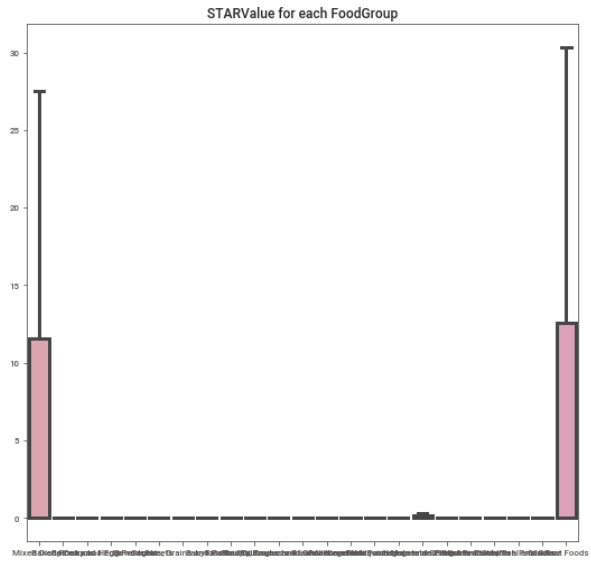
60
80
100
MUFAValue

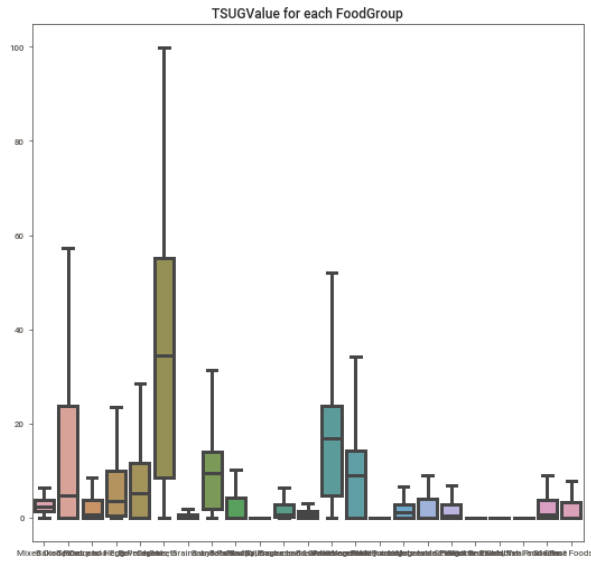

0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

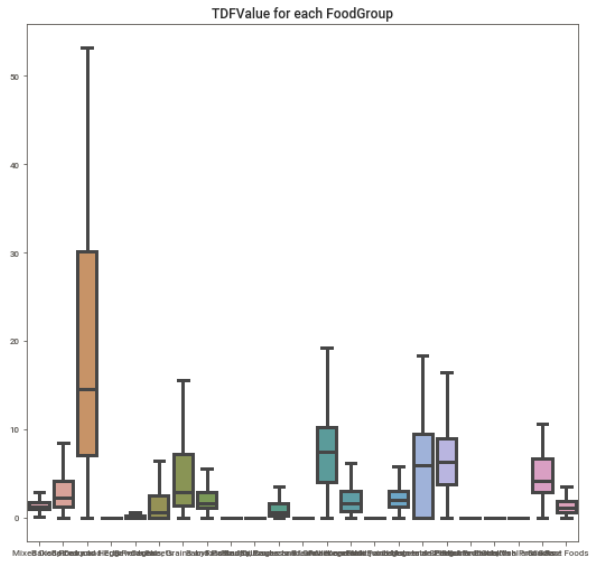

PROTValue for each FoodGroup
Box Plots without Outliers shown

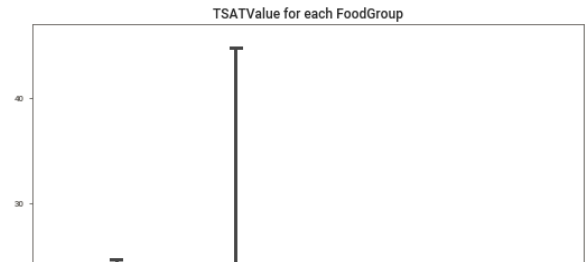

FATValue for each FoodGroup

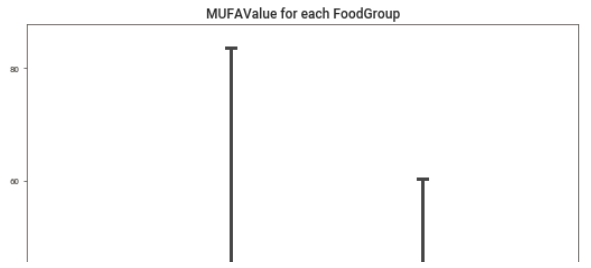

CARBValue for each FoodGroup

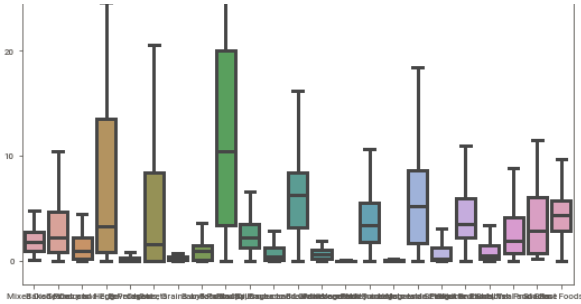

STARValue for each FoodGroup

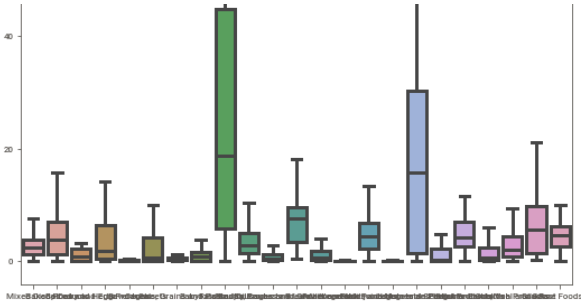

TSUGValue for each FoodGroup

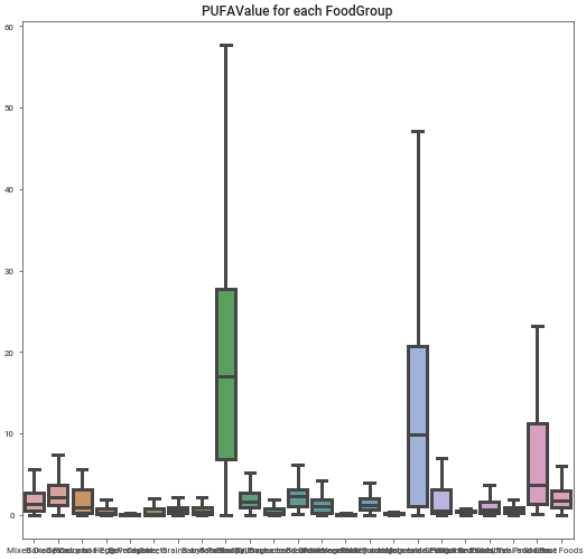

TDFValue for each FoodGroup

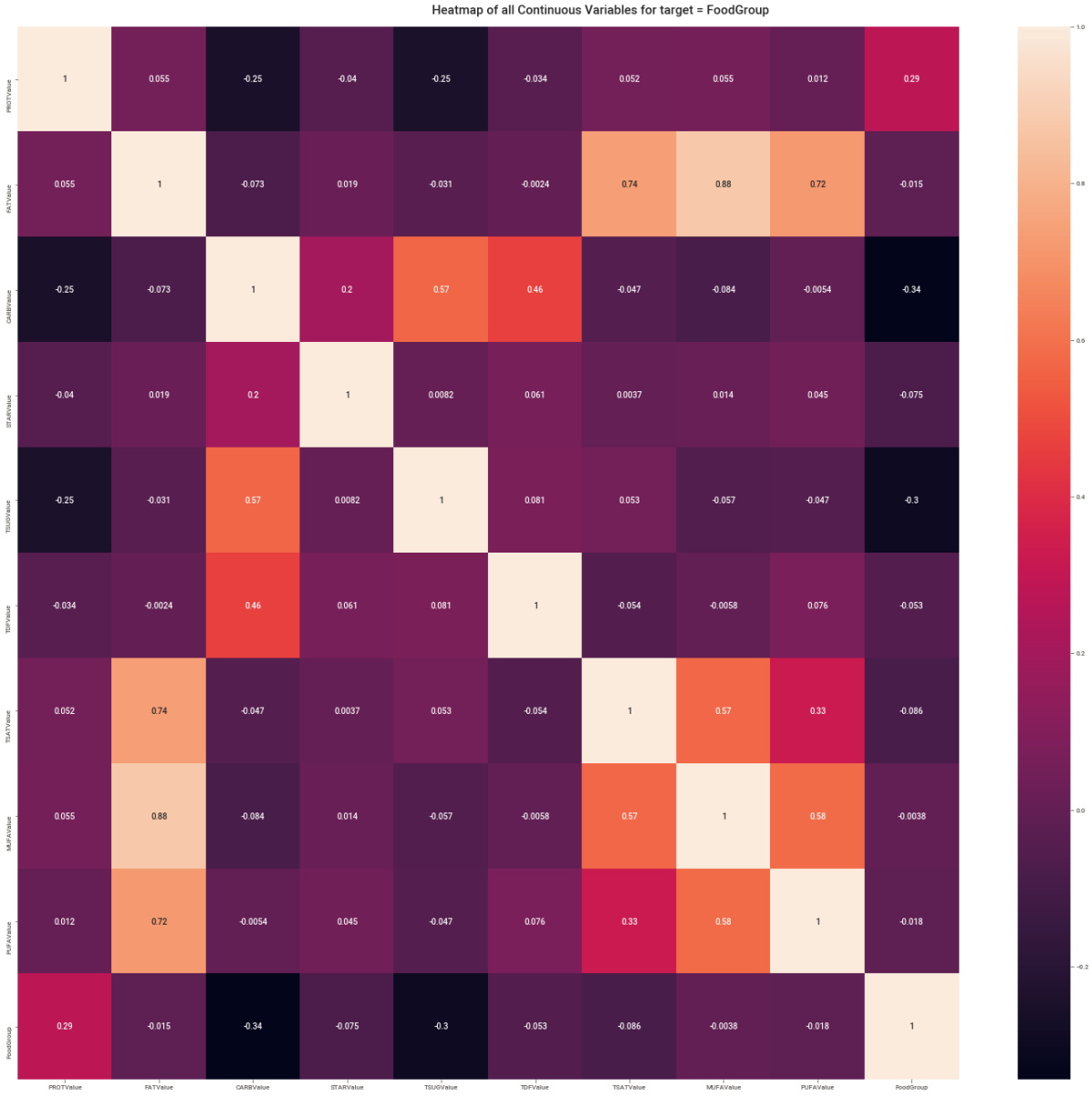

TSATValue for each FoodGroup


MUFAValue for each FoodGroup

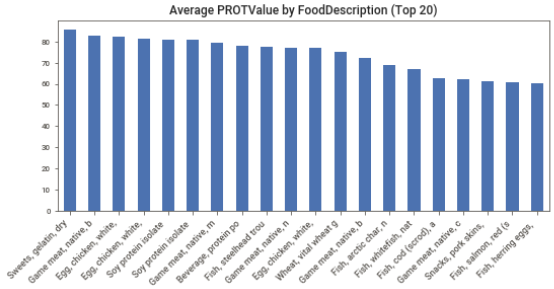

20
10
0

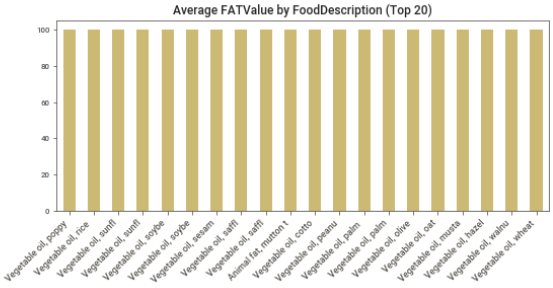

40
20
0

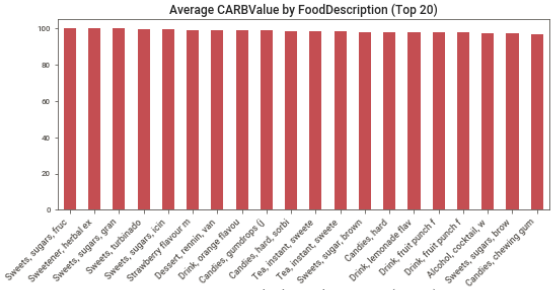

PUFAValue for each FoodGroup
60
50
40
30
20
10
0

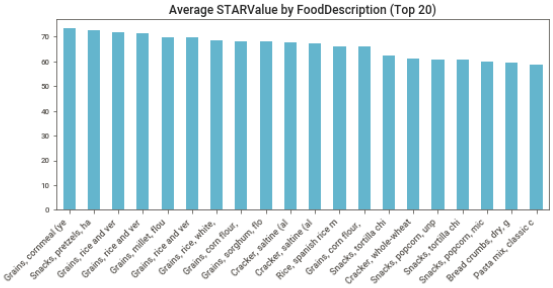

Heatmap of all Continuous Variables for target = FoodGroup
PROTValue
FATValue
CARBValue
STARValue
TSUGValue
TDFValue
TSATValue
MUFAValue
PUFAValue
FoodGroup
1 0.055 -0.25 -0.04 -0.25 -0.034 0.052 0.055 0.012 0.29
0.055 1 -0.073 0.019 -0.031 -0.0024 0.74 0.88 0.72 -0.015
-0.25 -0.073 1 0.2 0.57 0.46 -0.047 -0.084 -0.0054 -0.34
-0.04 0.019 0.2 1 0.0082 0.061 0.0037 0.014 0.045 -0.075
-0.25 -0.031 0.57 0.0082 1 0.081 0.053 -0.057 -0.047 -0.3
-0.034 -0.0024 0.46 0.061 0.081 1 -0.054 -0.0058 0.076 -0.053
0.052 0.74 -0.047 0.0037 0.053 -0.054 1 0.57 0.33 -0.086
0.055 0.88 -0.084 0.014 -0.057 -0.0058 0.57 1 0.58 -0.0038
0.012 0.72 -0.0054 0.045 -0.047 0.076 0.33 0.58 1 -0.018
0.29 -0.015 -0.34 -0.075 -0.3 -0.053 -0.086 -0.0038 -0.018 1
1.0
0.8
0.6
0.4
0.2
0.0
-0.2

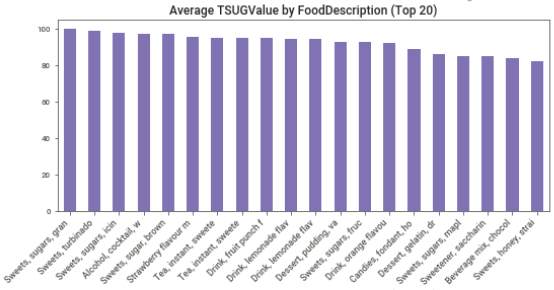
Bar plots for each Continuous by each Categorical variable

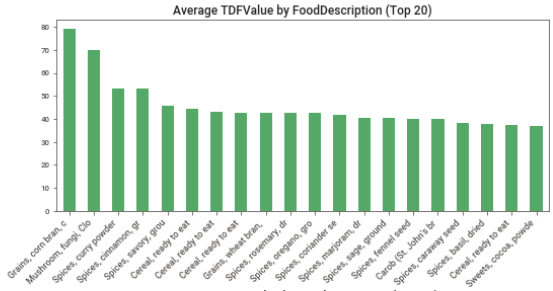


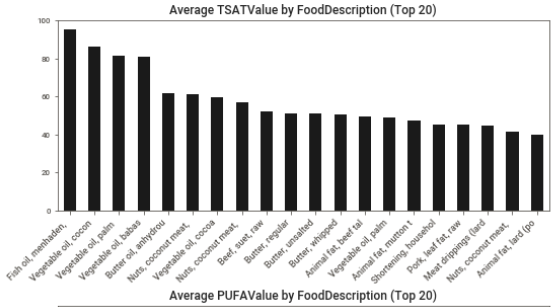


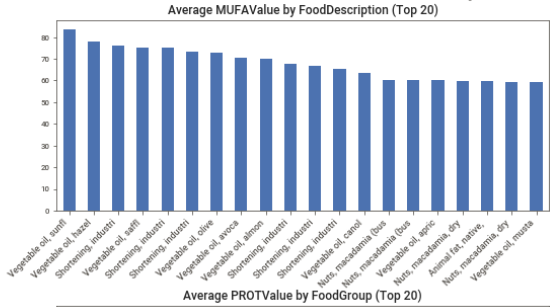


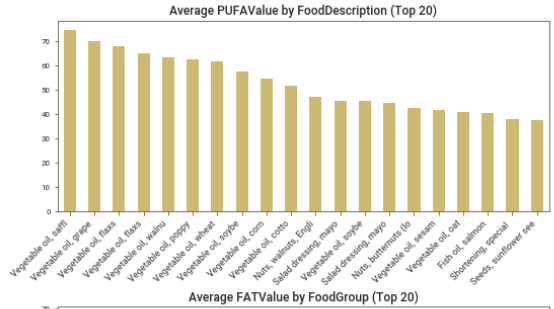


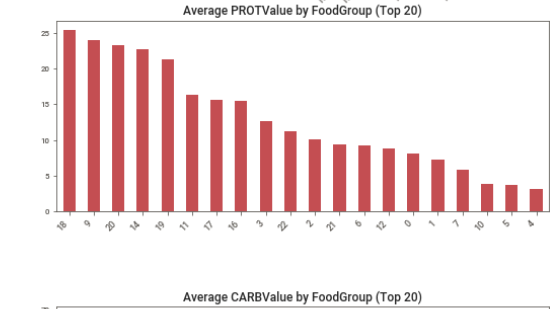


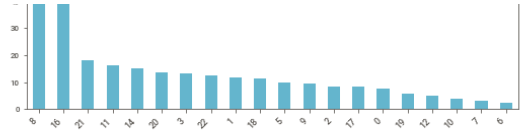


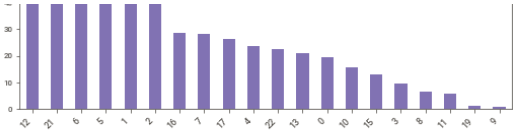


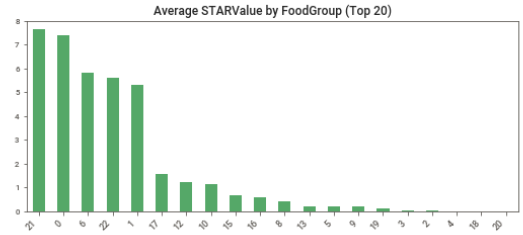


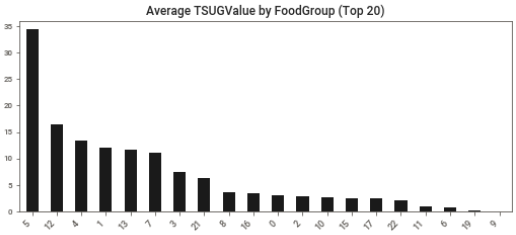


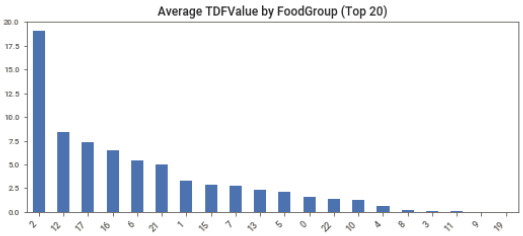


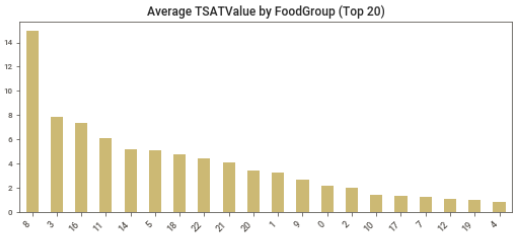


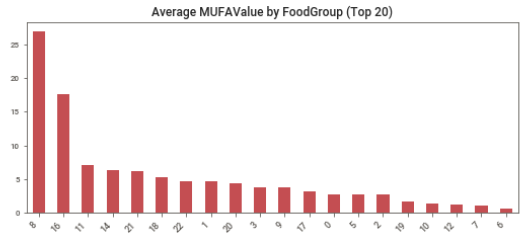


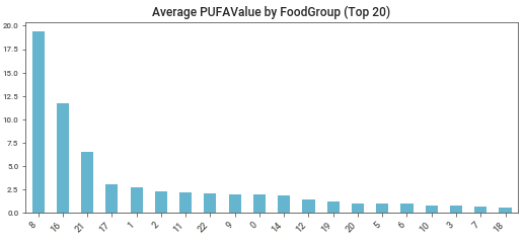










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Time to run AutoViz (in seconds) = 29.156

 ######################## VISUALIZATION Completed ########################
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