Recipe Site Traffic

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Background

01

Online recipes

Tasty Bytes, an online recipe startup features new recipes on their homepage website every day

02

Traffic boost

On days that they feature a popular recipe, traffic increases by as much as 40%

03

Challenge

However, it is difficult to predict ahead of time which recipes have high traffic

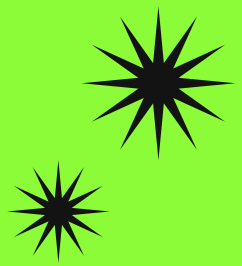
04

Traffic

A typical binary classification problem

Background

Backgro und



01

About me

You can describe the topic of the section here

02

Studies

You can describe the topic of the section here

03

Experience

You can describe the topic of the section here

04

My work

You can describe the topic of the section here

Predict whether a recipe will receive a high traffic based on the data collected from previously published recipes. The criterion for success was the correct classification of **75%** of the recipes.

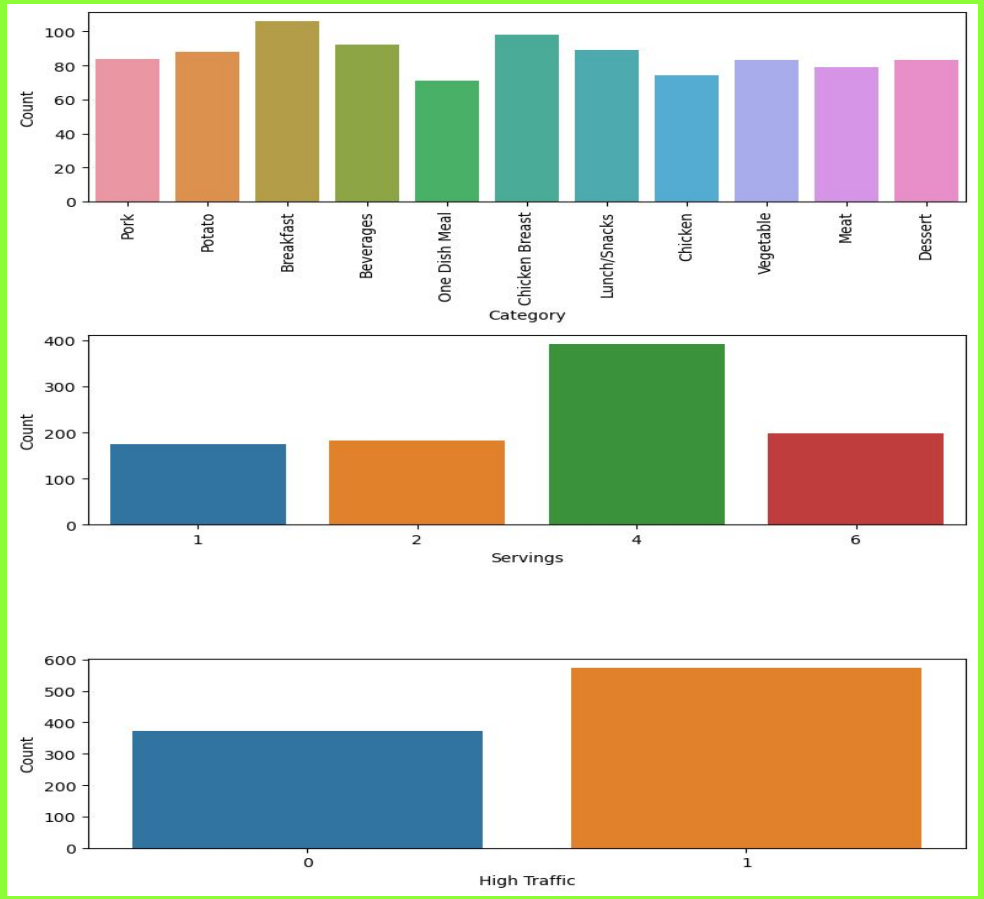
Project Goals

Validation & EDA

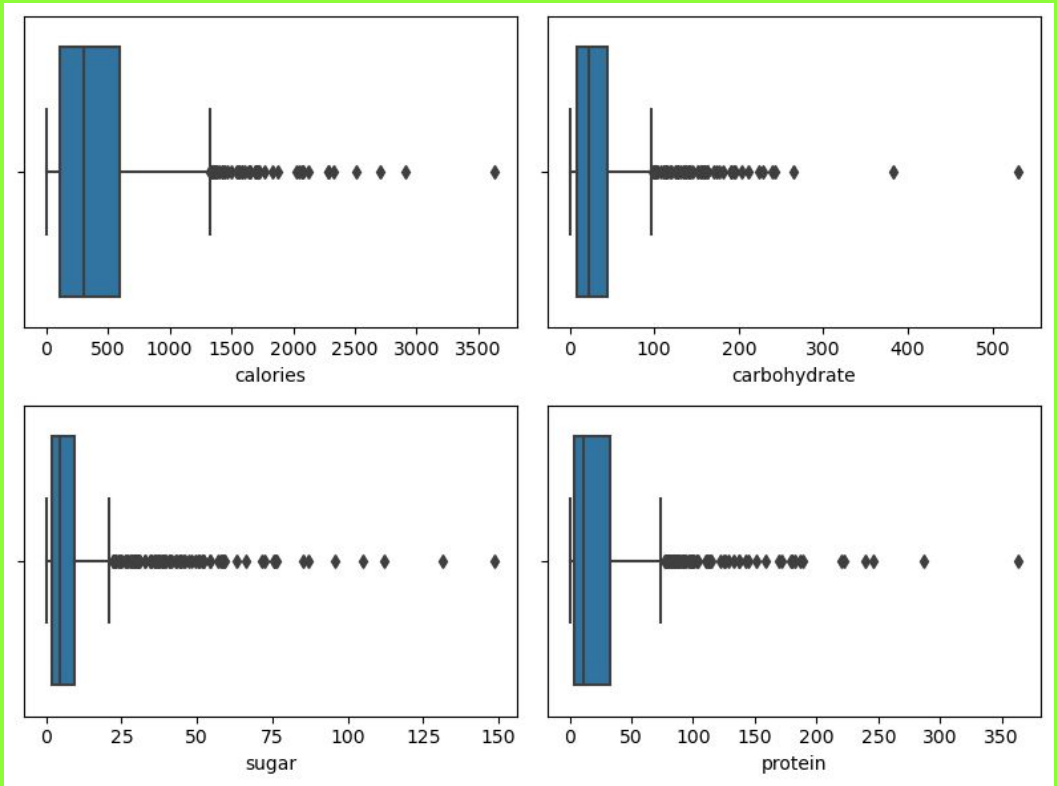
```
RangeIndex: 947 entries, 0 to 946
Data columns (total 8 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   recipe        947 non-null    int64
 1   calories      895 non-null    float64
 2   carbohydrate  895 non-null    float64
 3   sugar         895 non-null    float64
 4   protein       895 non-null    float64
 5   category      947 non-null    object
 6   servings      947 non-null    object
 7   high_traffic  947 non-null    int64
dtypes: float64(4), int64(2), object(2)
memory usage: 59.3+ KB
```

```
No of missing values in  calories  is:  52
No of missing values in  carbohydrate  is:  52
No of missing values in  sugar  is:  52
No of missing values in  protein  is:  52
```

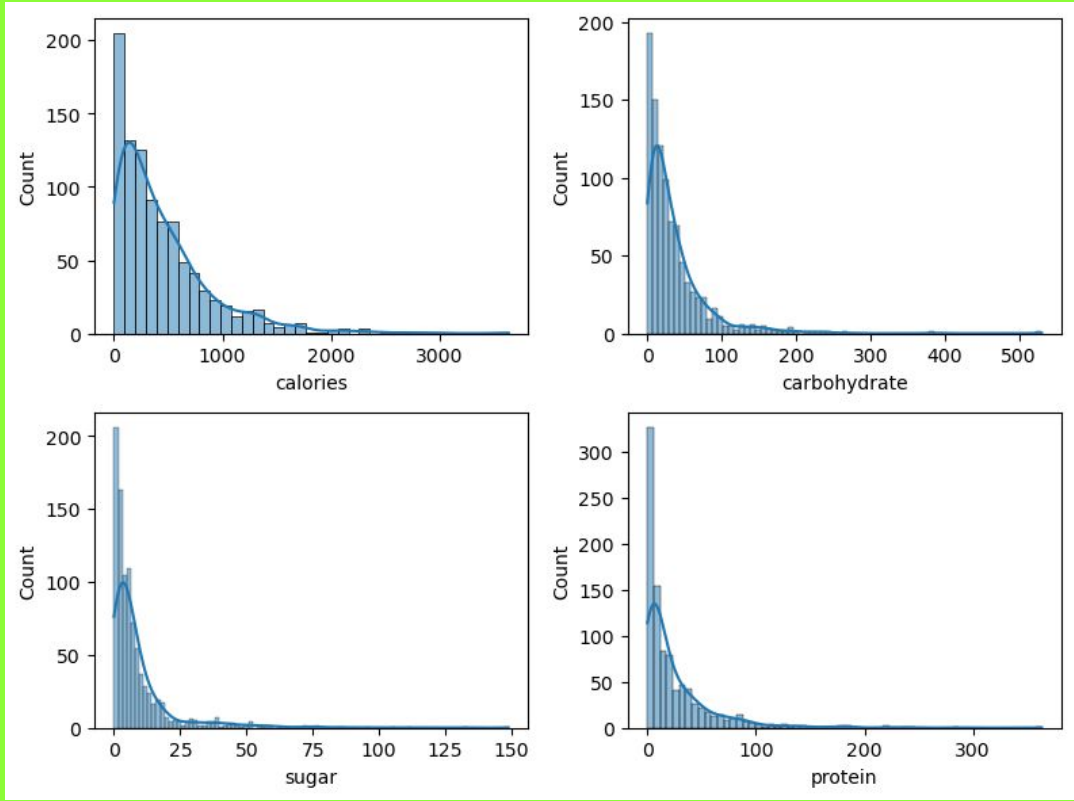
Validation & EDA



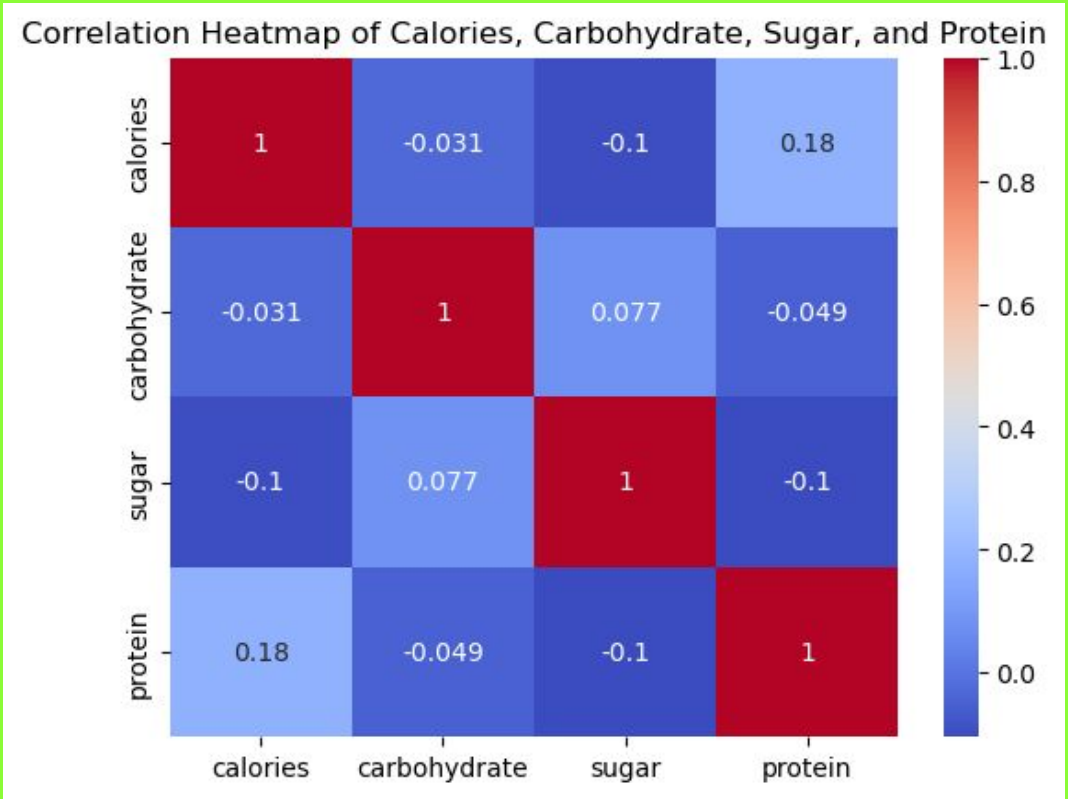
Validation & EDA



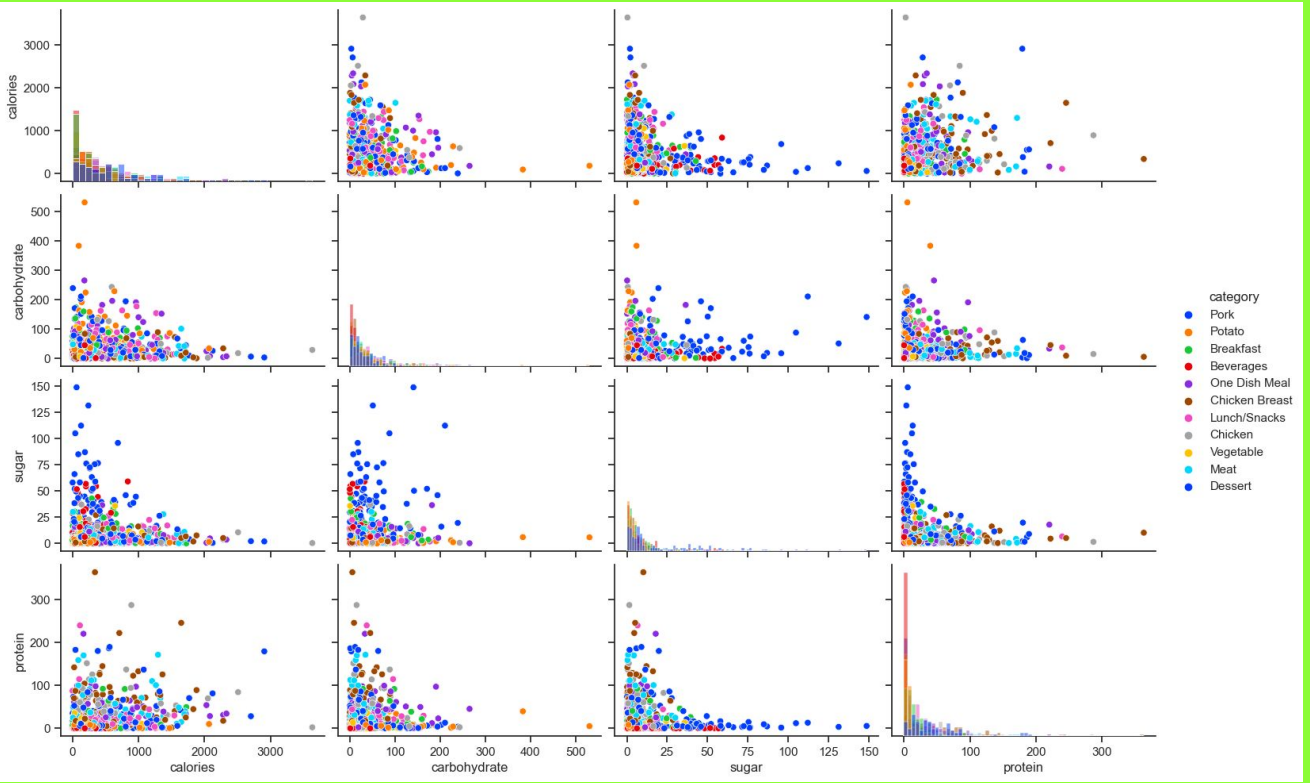
Validation & EDA



Validation & EDA



Validation & EDA



Statistical Test

```
calories: t = -2.29, p = 0.0225
carbohydrate: t = -2.42, p = 0.0156
sugar: t = 2.22, p = 0.0269
protein: t = -1.35, p = 0.1761
```

Statistical Test

```
contingency_table = pd.crosstab(df['category'], df['high_traffic'])
chi2, p, dof, expected = chi2_contingency(contingency_table)
chi2, p
```

```
(320.22296286253834, 8.182067546493786e-63)
```

```
contingency_table = pd.crosstab(df['servings'], df['high_traffic'])
chi2, p, dof, expected = chi2_contingency(contingency_table)
chi2, p
```

```
(2.7369889309788054, 0.4339779666711946)
```

Feature Engineering

health?

Complex?

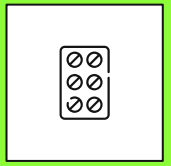
Modeling

Logistic Reg

```
confussion matrix:  [[ 45  32]
 [ 11 102]]
accuarcy:  0.7736842105263158
precision:  0.7611940298507462
recall:  0.9026548672566371
f1:  0.8259109311740891
```

Random Forest

```
confussion matrix:  [[ 45  32]
 [ 11 102]]
accuarcy:  0.7736842105263158
precision:  0.7611940298507462
recall:  0.9026548672566371
f1:  0.8259109311740891
```



DNN

```
confussion matrix:  [[42 35]
 [16 97]]
accuarcy:  0.7315789473684211
precision:  0.7348484848484849
recall:  0.8584070796460177
f1:  0.7918367346938775
```

Thanks!