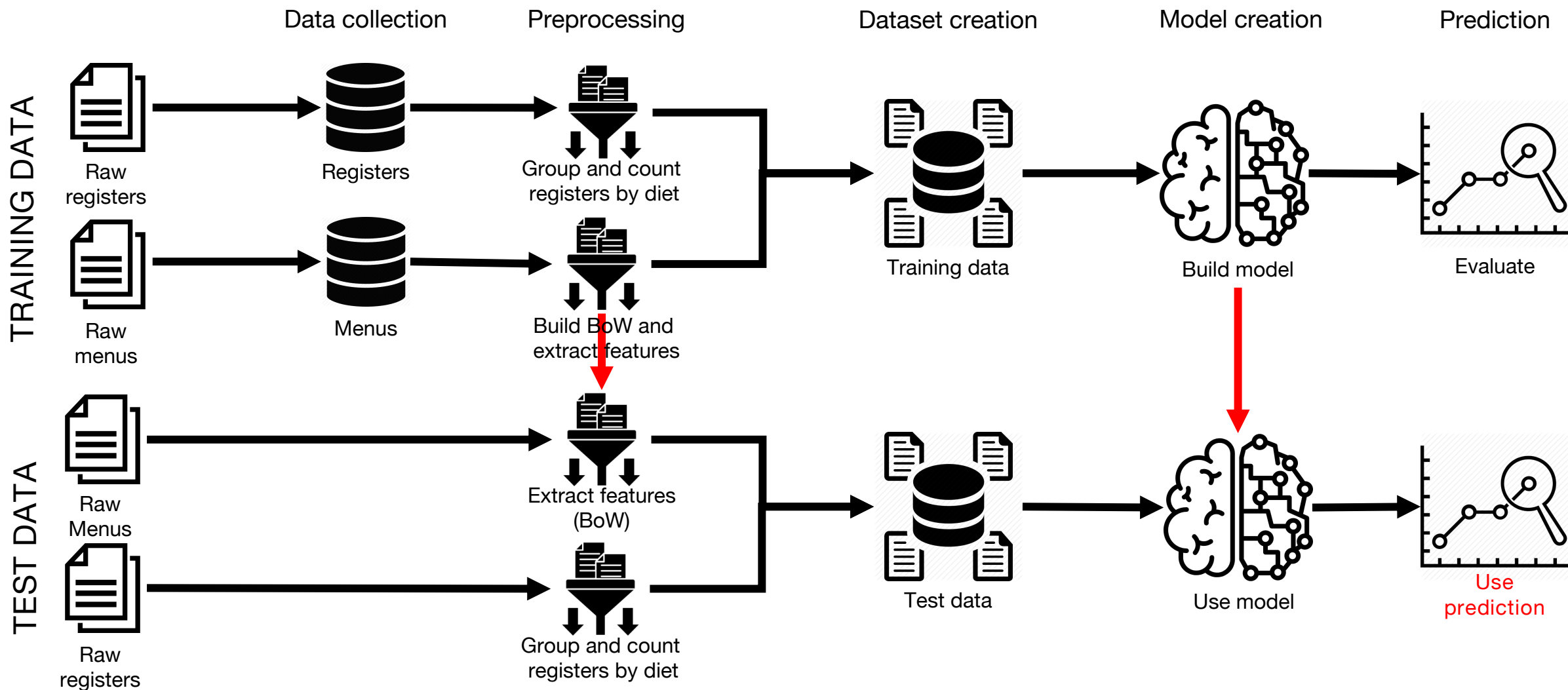


Food Waste Prediction

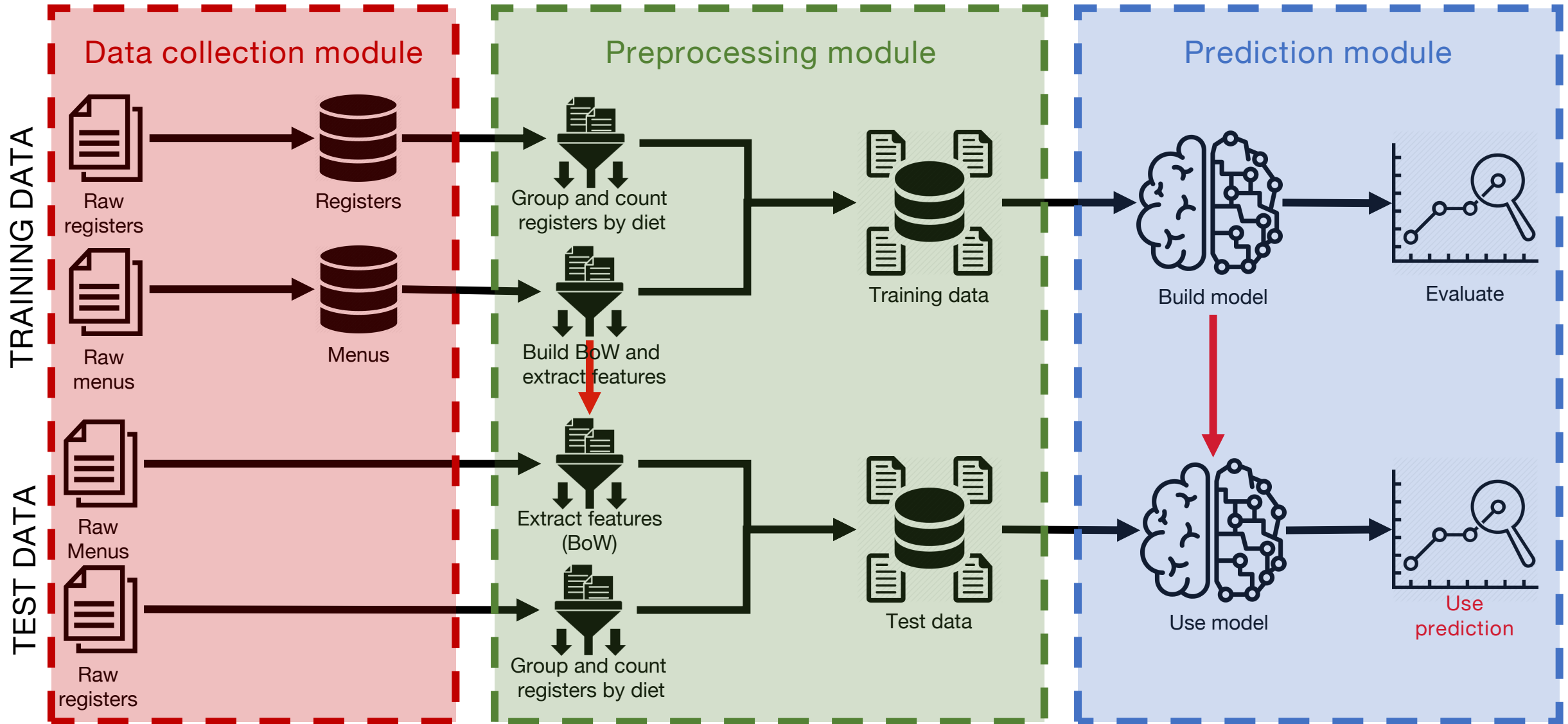
Luis Gonzalez Guzman

luis.gonzalez@wizeline.com

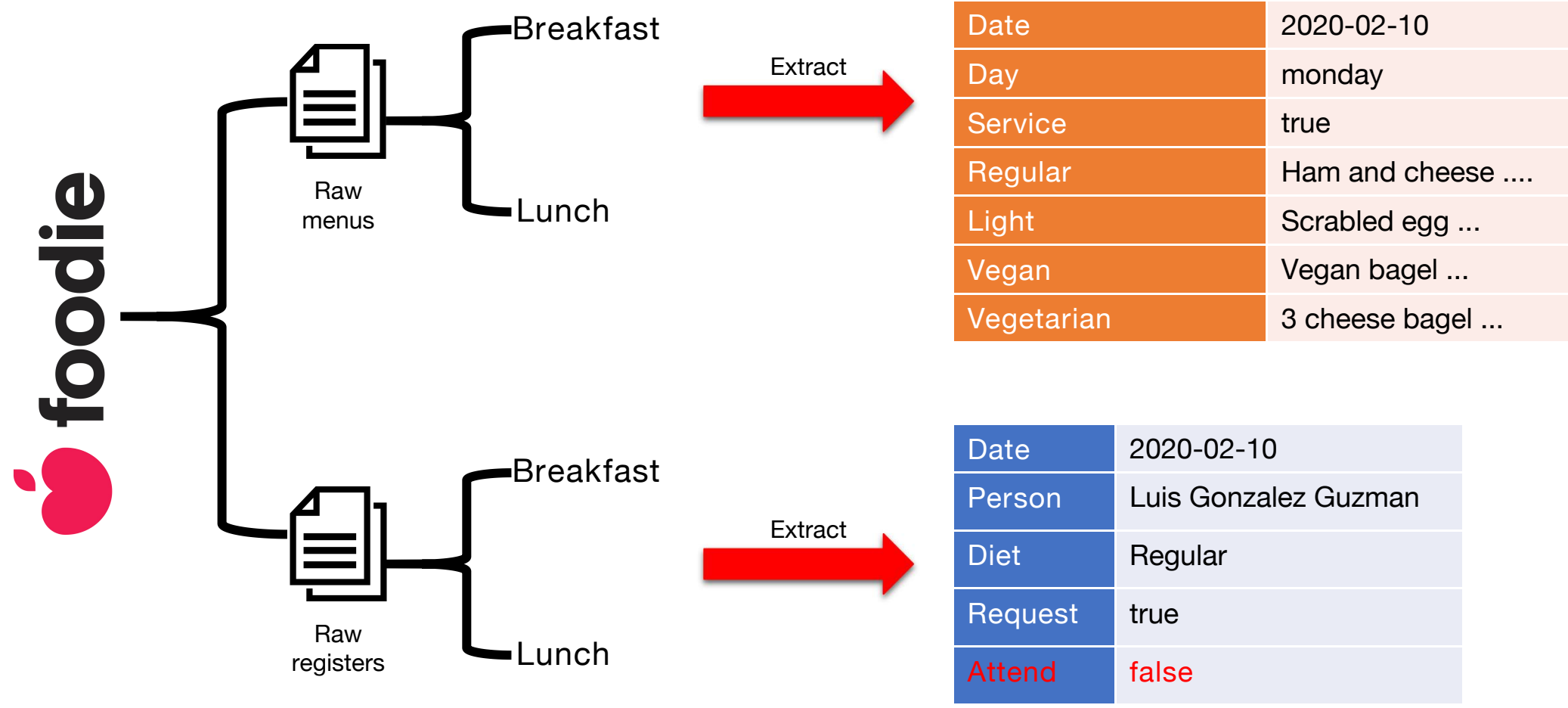
App flow



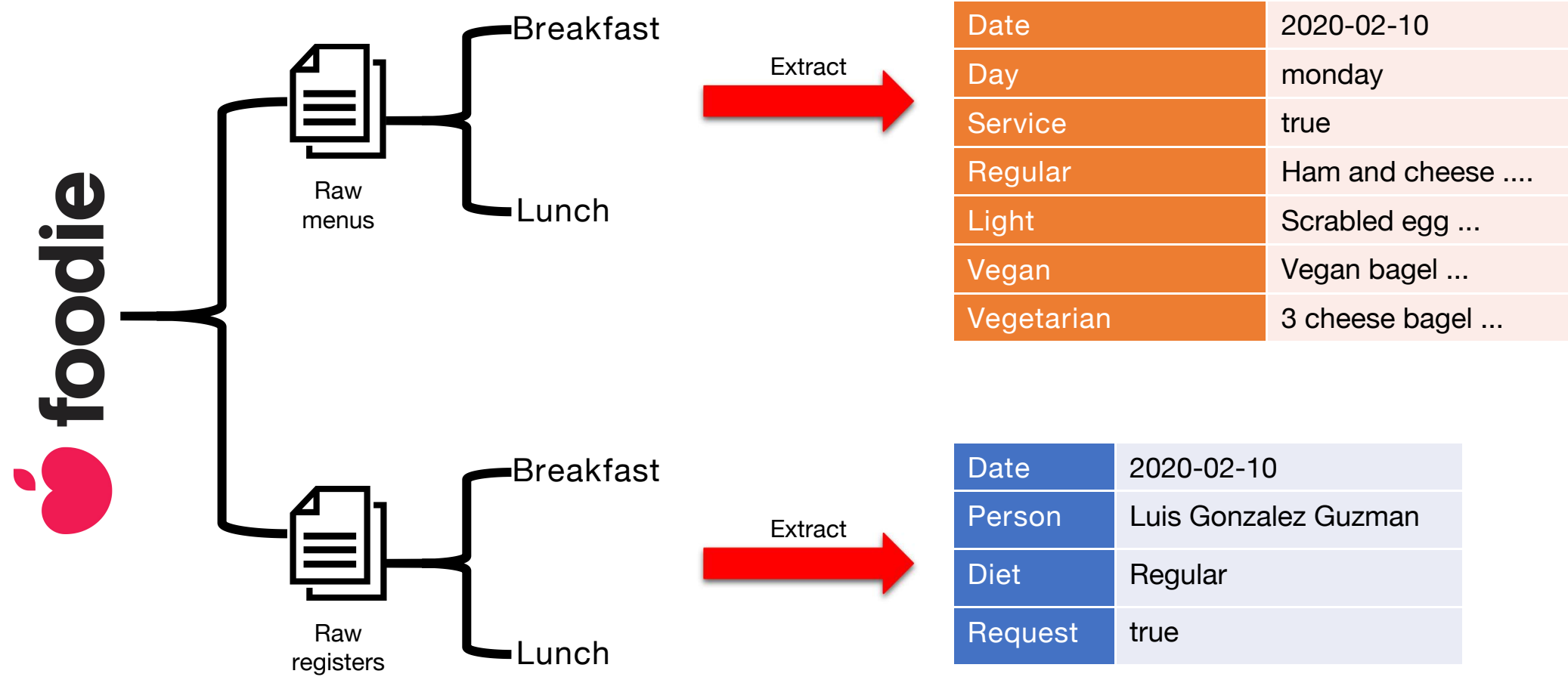
App modules



Training data

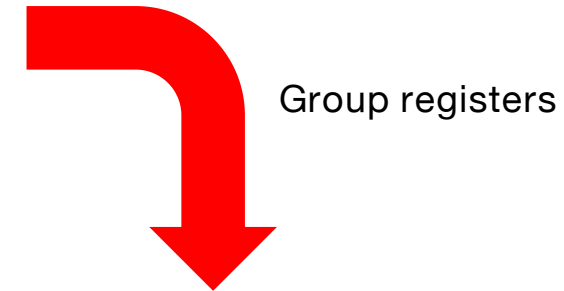


Test data



Preprocessing: Grouping registers

Date	Person	Diet	Request	Attend
2020-01-02	Luis G....	Regular	true	false
2020-01-02	Juan S	Regular	false	false
....
2020-01-03	Luis G...	Vegan	true	true
...



Grouped by same date and diet		Count records on the same date	Count requests equal to true	Count same diet requests	Count people who attend	Request - Attend
Date	Diet	TotalPeople	TotalRequests	Request	Attend	Difference
2020-01-02	Regular	364	235	78	63	15
2020-01-02	Light	364	235	26	12	14
2020-01-02	Vegan	364	235	7	3	4
2020-01-02	Vegetarian	364	235	18	10	8
2020-01-03	Regular	370	205	62	46	16
...

Preprocessing: Build Bag of Words

Date	Day	Service	Regular	Light	Vegan	Vegetarian
2020-01-02	thursday	true	ham and cheese bagel (1pc)	scrambled egg whites with ham	vegan bagel veggies with hummus	scrambled eggs with bellpeppers
2020-01-03	friday	true	scrambled eggs with ham	scrambled egg whites	vegan sweet crepes (2pcs)	scrambled eggs mexican style
...

Clean text and build a Bag of Words model from diets columns

Features (1xN) :
[**bagel** , bean , burrito , egg , **piece** , scrambled , **ham** , ...]

Example: Regular (2020-01-02)

ham and cheese bagel (1pc)

Raw menu

ham cheese **bagel** 1 **piece**

Cleaned menu

[**1** , 0 , 0 , 0 , **1** , 0 , **1** , ...]

BoW vector

Merge data

Joining Registers and Menus datasets by date,
dropping the date column and keeping the service day records

Menu

bagel	bean	burrito	...	Day
0	2	1	...	tuesday
1	0	0	...	wednesday
0	0	2	...	thursday
0	1	1	...	friday
2	2	0	...	monday
1	0	3

Features (N-Columns)

Records

Diet	TotalPeople	TotalRequests	Request	Attend
Regular	364	235	78	63
Light	364	235	26	12
Vegan	364	235	7	3
Vegetarian	364	235	18	10
Regular	370	205	62	46
...

To predict

