

An Examination of Recipes from Around the World

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The goal of my project was to use data science to gain insights of cuisines from around the world.

Questions I wanted to explore:

Which cuisines are most similar and which are most different?

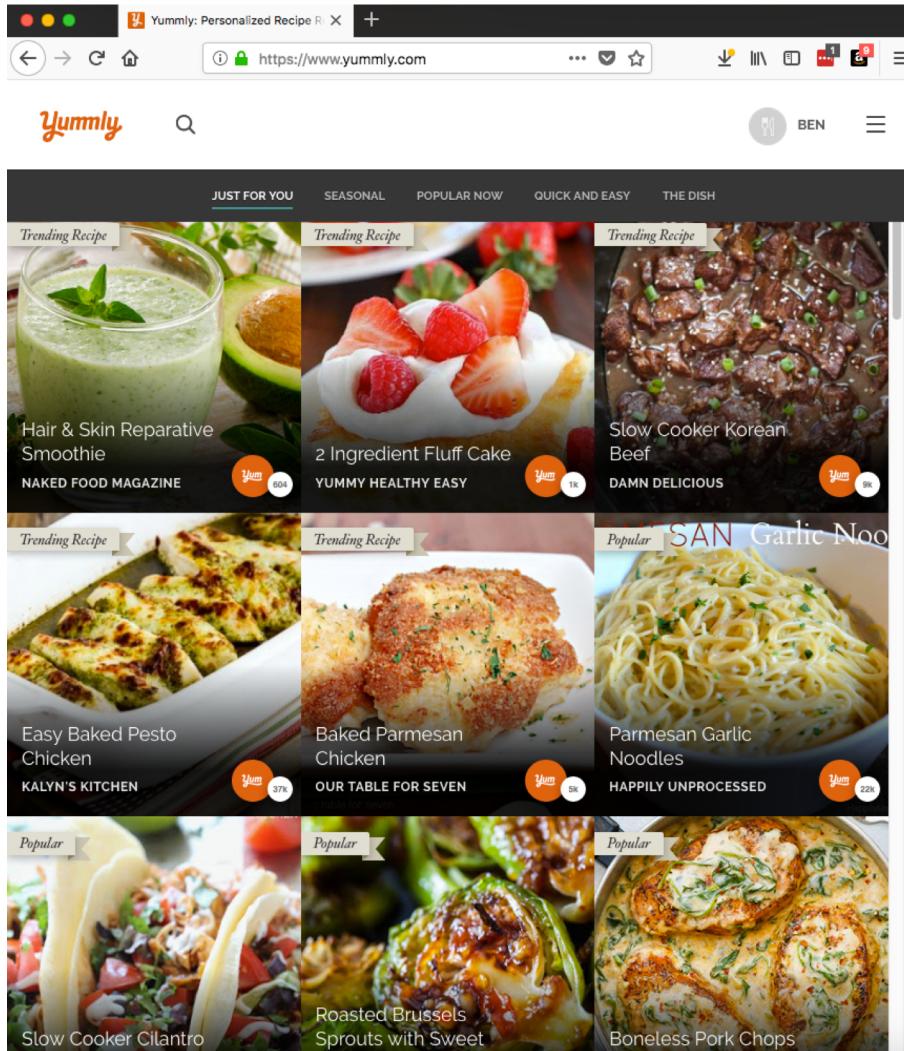
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Are there any unexpected relationships?

Which ingredients are most predictive of a particular cuisine?

In order to explore this topic, I decided to use recipe data

Yummly.com API



Data Description

Name	Type	Description
Cuisine	String	e.g. italian, indian, mexican
Course	String	e.g. Lunch, Main Dish
Flavors	Dict	e.g. {sour: float, salty: float, sweet: float}
Ingredients	List of Strings	e.g. [bow-tie pasta, bacon slices]
Rating	Int	Rating from 1-5
RecipeName	String	e.g. 'Lemon Chicken Pasta'

Size of data:

Total number of recipes downloaded: 12,492

Total number of cuisines: 25

Number of recipes / cuisine: ~500

Before I began to do machine learning, there were a number of preprocessing steps

	cuisine	course	ingredients	bitter	meaty	piquant	salty	sour	sweet	rating	recipe_name
9988	japanese	NaN	[pork belly, shoyu, mirin, sake, sugar, scallions, garlic, shallots, ginger, salt]	0.333333	0.833333	0.000000	0.833333	0.166667	0.333333	3	japanese chashu pork belly (for ramen)
9989	japanese	[Condiments and Sauces]	[light brown sugar, mirin, reduced sodium soy sauce]	0.833333	0.166667	0.000000	0.833333	0.000000	0.833333	3	canal house teriyaki sauce
9990	japanese	[Breakfast and Brunch, Lunch]	[fresh spinach, spinach, onions, garlic cloves, large eggs, salt, black pepper, soy sauce, sugar, olive oil]	0.833333	0.166667	0.000000	0.666667	0.833333	0.166667	4	spinach tamagoyaki (spinach packed omelette)
9991	japanese	[Main Dishes]	[pork shoulder, soy sauce, mirin, sake, sugar, garlic, green onions, ginger, shallots]	NaN	NaN	NaN	NaN	NaN	NaN	4	slow braised japanese chashu pork
9992	japanese	[Side Dishes]	[gai lan, cooking oil, fresh ginger, garlic, hot pepper, miso paste, water, toasted sesame oil, soy sauce]	0.500000	0.166667	0.166667	0.333333	0.833333	0.166667	5	chinese broccoli with garlicky ginger miso

Description of cleaning steps:

Results slide 1

Results slide 2

Conclusions