

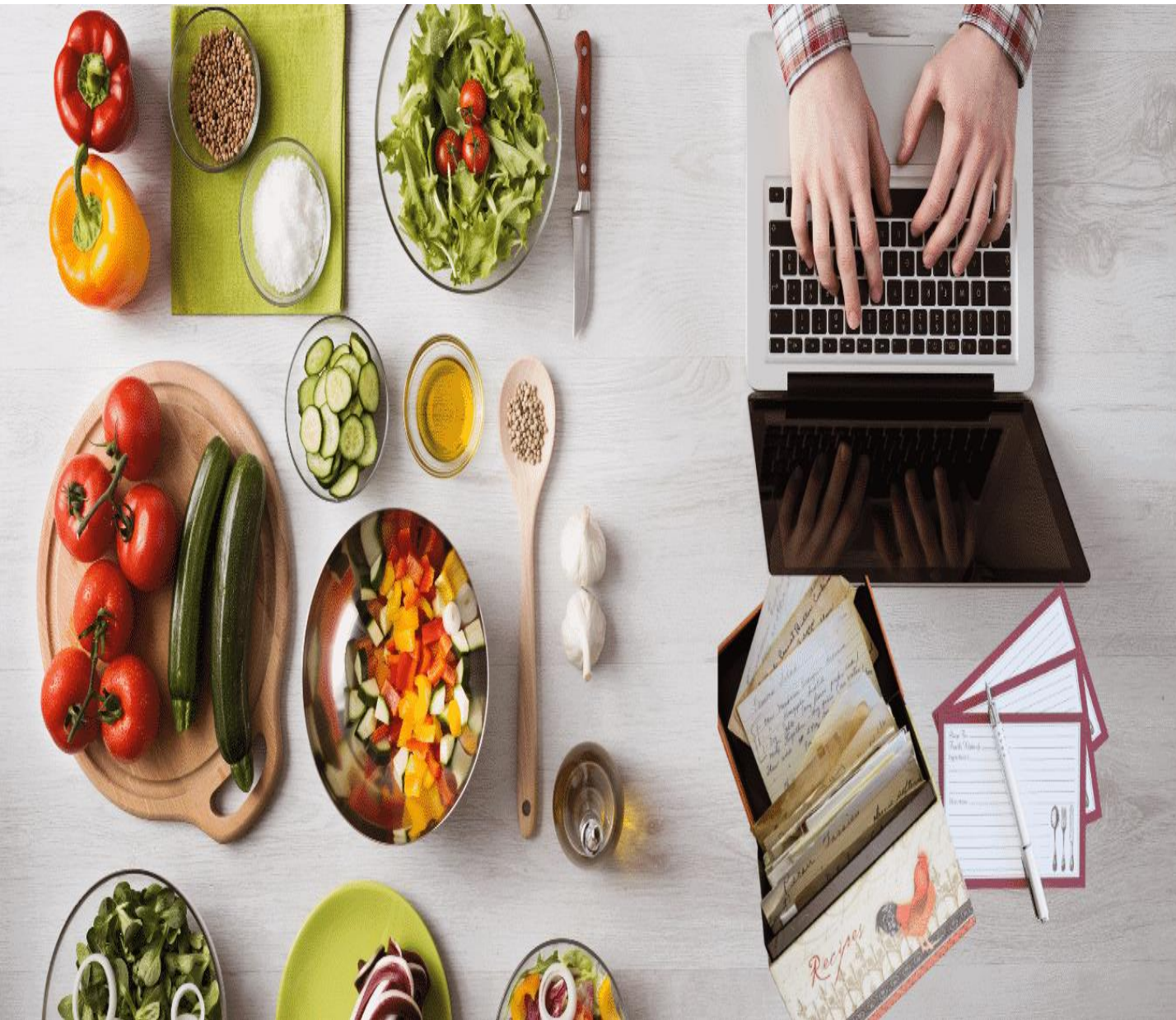
Food Recipes: Topic Modeling & Recommendations

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Background



Motivation

- Millions of recipes are available online
- We spend a lot of time thinking about what to cook and end up making the same recipes again

Objective

- Identify key ingredients across cuisines and recipe types
- Personalized recommendations for new recipes to try

2

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Data Source



Scraped Food.com data available on Kaggle

Recipes dataset

231,637 Recipes

4000 Ingredients

555 Cuisines/Tags

Users Ratings dataset

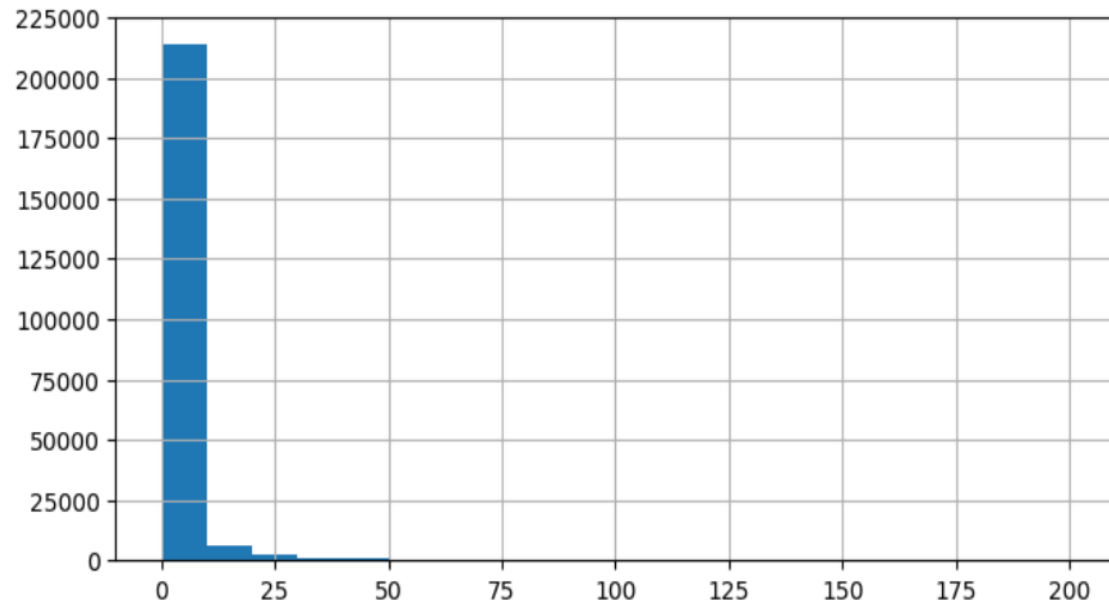
226,570 Users

1.1M Ratings

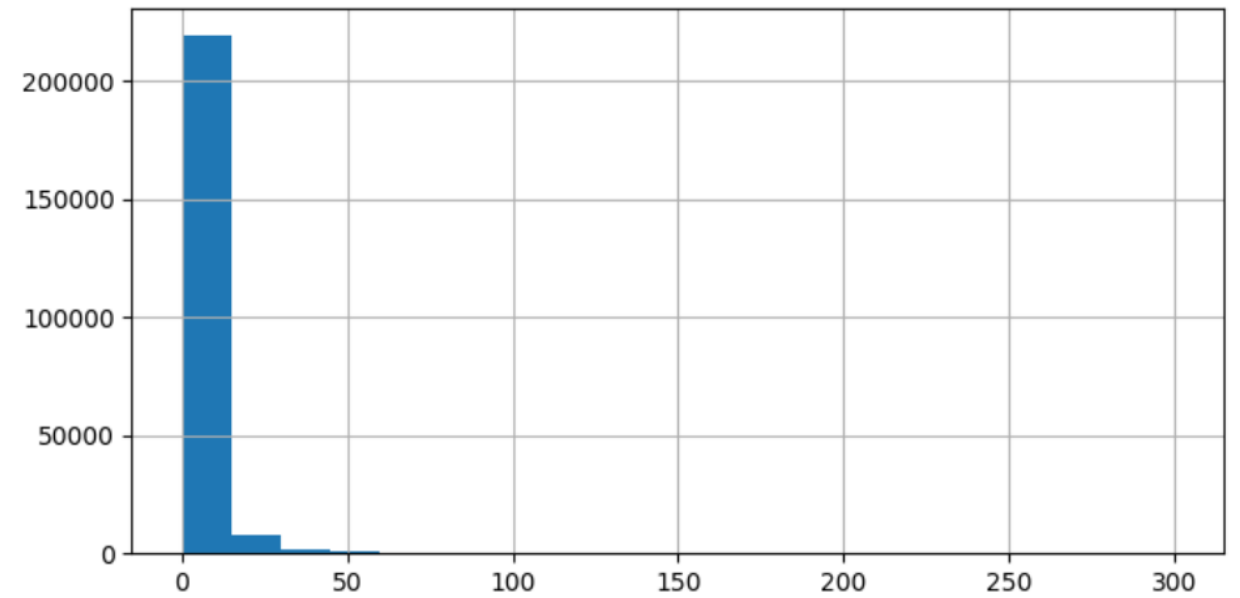
231,637 Recipes

EDA

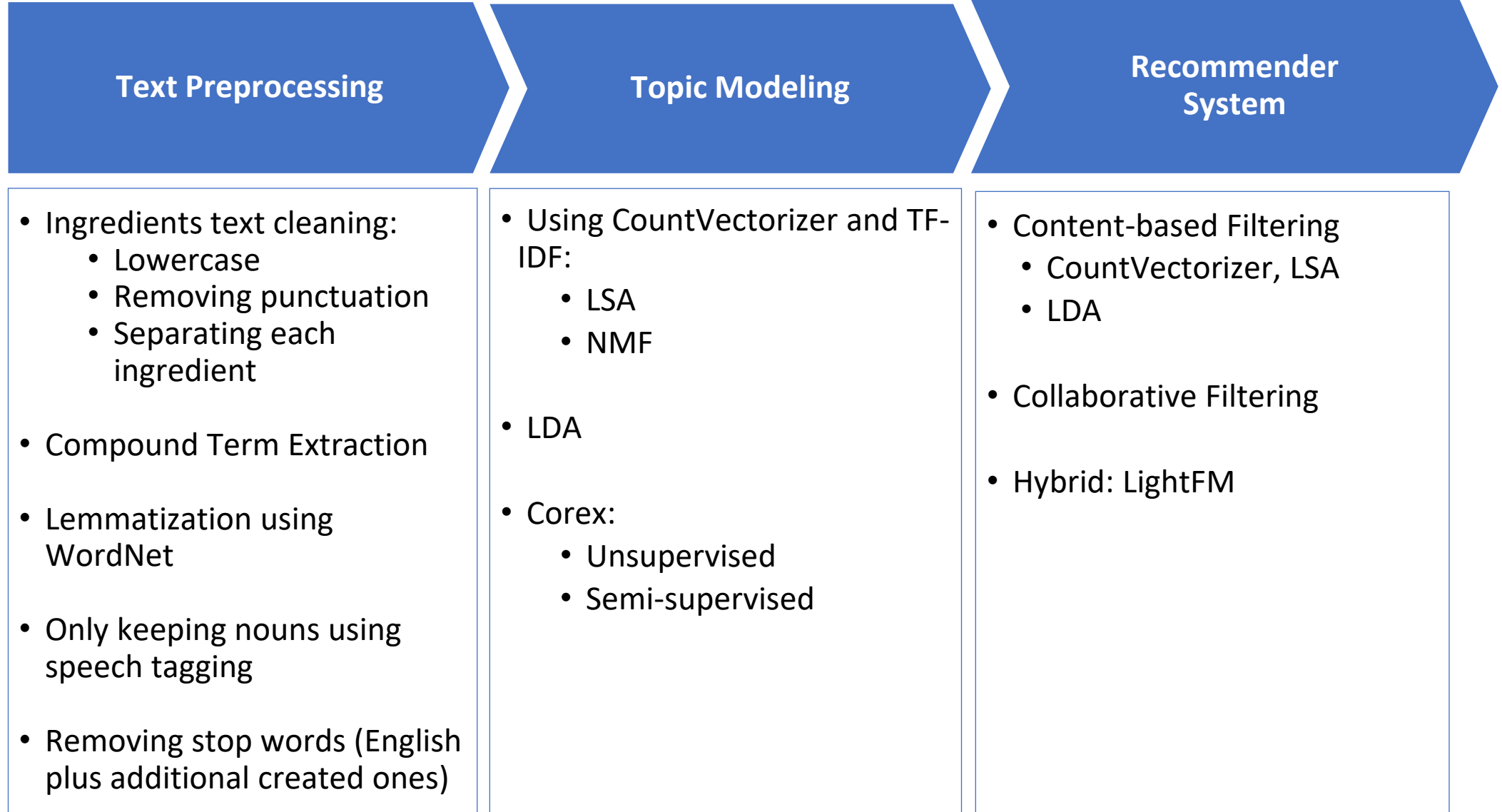
Ratings per User Distribution



Ratings per Recipe Distribution

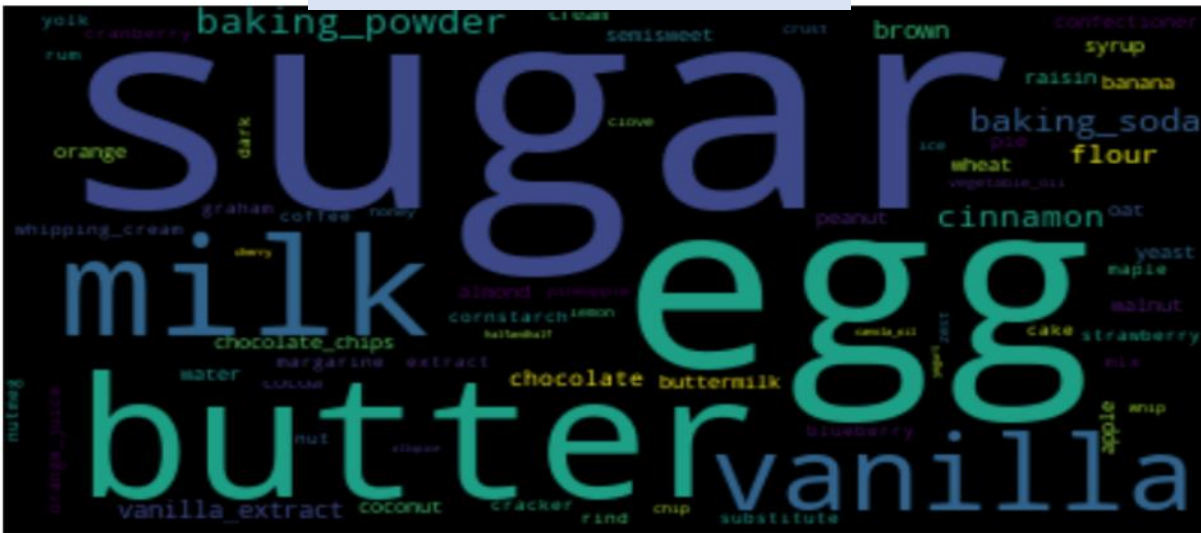


Methodology

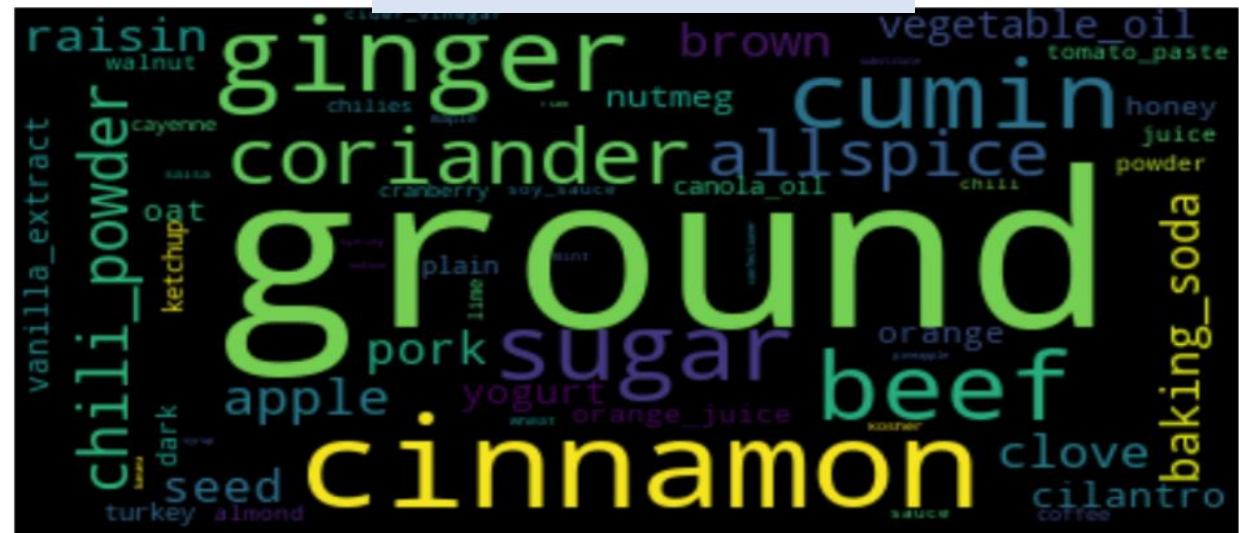


Topic Modeling: Unsupervised

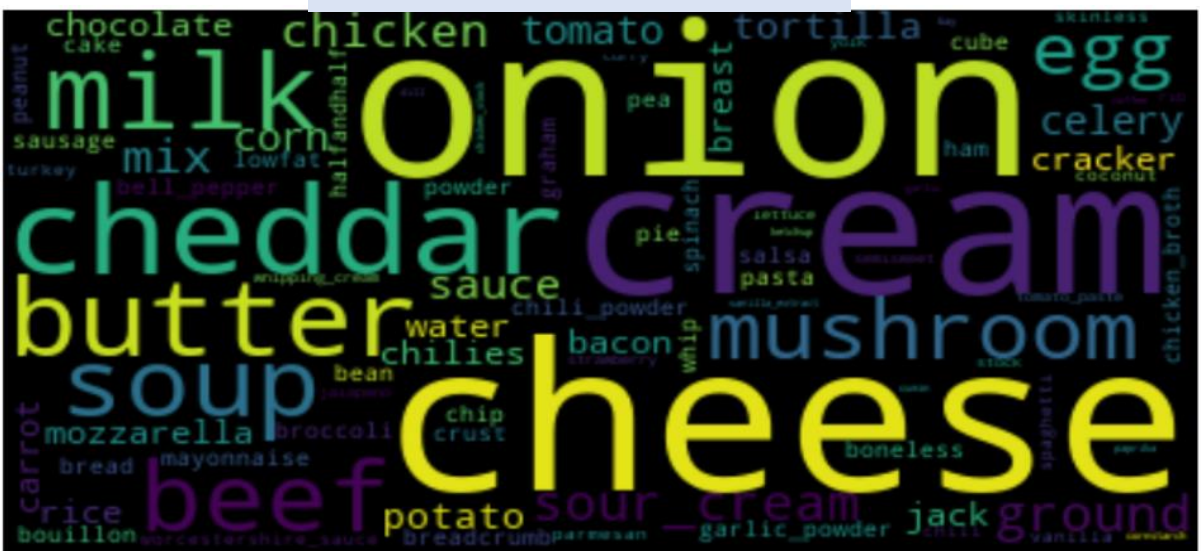
Baking



Spices



Soups



Miscellaneous



Topic Modeling: Semi-supervised

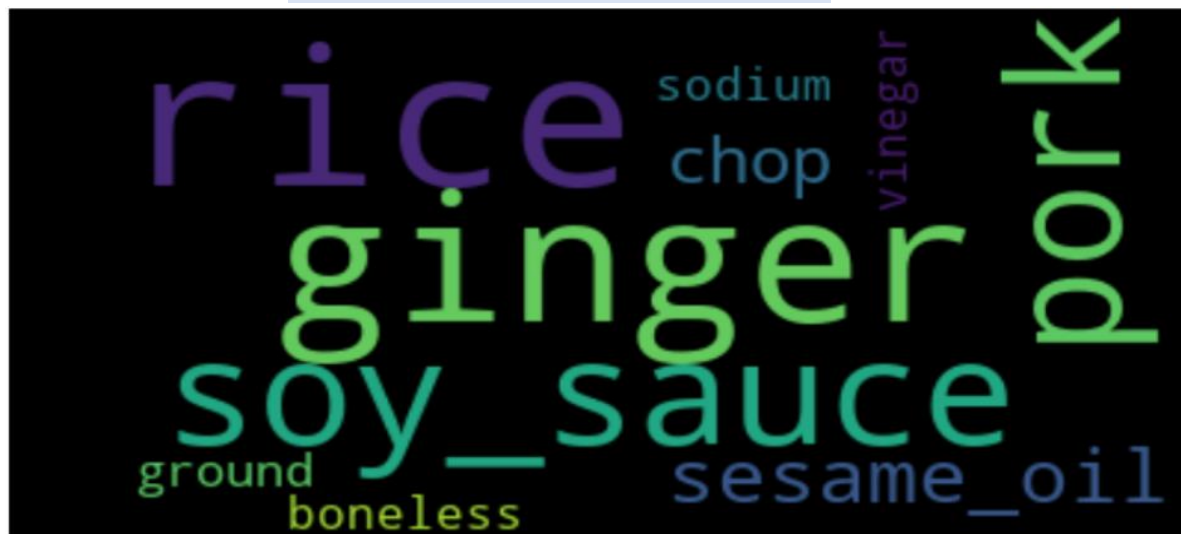
Italian



American



Chinese



Mexican



Recommendation Results

**CountVectorizer,
LSA**

All in the kitchen chili



- Texas style skillet
- Texas beef skillet
- La bamba casserole

Alouette potatoes



- Collard greens with gruyere
- Cherry tomatoes on provolone garlic bread
- Olive garden bruschetta

LDA

All in the kitchen chili



- Crockpot chili with chicken sausage
- Butter chicken or cauliflower with cashews
- Mexican chicken dip

Alouette potatoes



- Caramelized onion tartlets
- Blackened Portobello Mushroom Salad
- Quick Hunan Grilled Chicken

**Sugar shortbread
cookies**



- Fudgy Butterscotch Bars
- Lemony white chocolate cheesecake
- Fluffy mint dessert

Future Work

- Further text preprocessing and parameters tuning
- Classify recipes into types to improve recommendations
- Test on new data set
- Create web app to recommend new recipes