Recipe-Recommender

Motivation

- People enjoy food. Preparing delicious meals can be a rewarding relaxation after a busy day. Nevertheless, even an all-time favorite dish becomes less attractive if one cooks and eats the same thing repeatedly. Yet, exploring new recipes that fit one's taste may not be easy, since it's usually a process of trial and error, taking time and effort.

- This application, therefore, helps people to find new recipes that match their taste, adding a twist to their daily meals.

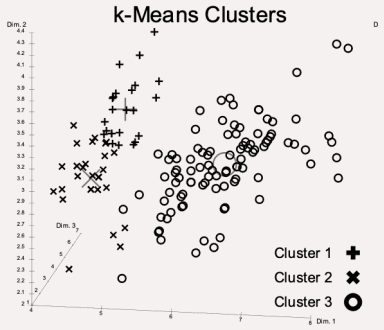
Link: http://recip-Publi-1R2DWR6Y44L3V-1957760514.us-east-1.elb.amazonaws.com

Data

- The dataset used is from Food.com in Kaggle. It includes both recipes and user interactions with the recipes. It has 180K+ recipes and 700K+ recipe reviews, covering 18 years of user interactions.

- The MySQL database in RDS stores the recipe information to be used for the web app.

Model

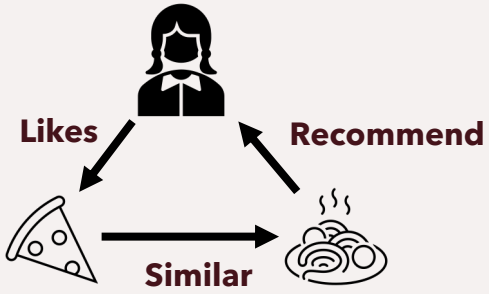


K-Means Cluster

- **Model Success: nDCG > 0.7**

$$DCG_n = \sum_{i=1}^{n} \frac{rel_i}{\log_2^{i+1}},$$

$$NDCG_n = \frac{DCG_n}{IDCG_n},$$



Content-Based Filtering

- **Result: Average nDCG = 0.734**

Interesting Insight

- In Project Mission, I was making an example of linking *Carbonara* and *Mac & Cheese*.
- But apparently the model does not agree on that.
- It turns out that *Lasagna* is the ultimate substitute for *Carbonara* (5 out of top 10 are some Lasagna recipes!).

Thank You!

Email: zhiyangchen2021@u.northwestern.edu