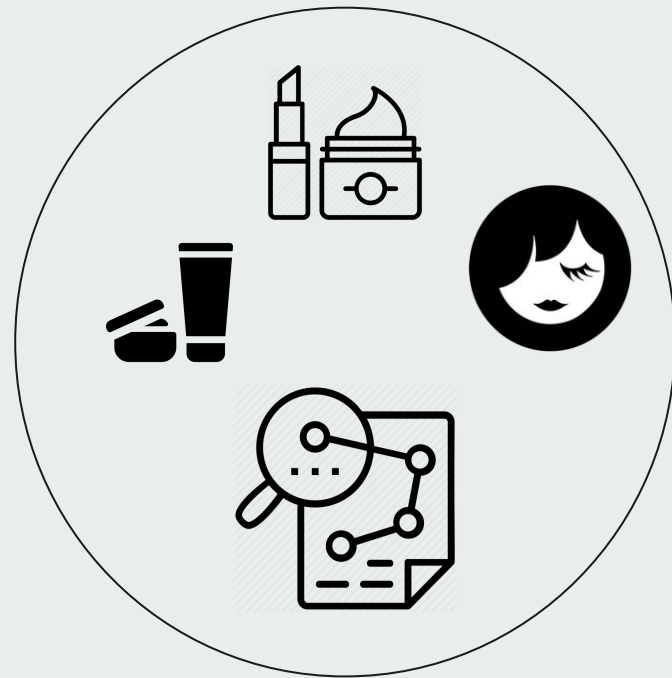


Beauty-Search

A search engine for beauty products

CS6200 Information Retrieval Fall 2020

Yuting Sun





Problem Identified

It is always a challenging task to try out a new beauty product:

- A product that is good for one person may not be suitable for another.
- Improper products would waste a lot of money and even cause severe skin problems.

Ingredients are important but are rarely used for beauty product search:

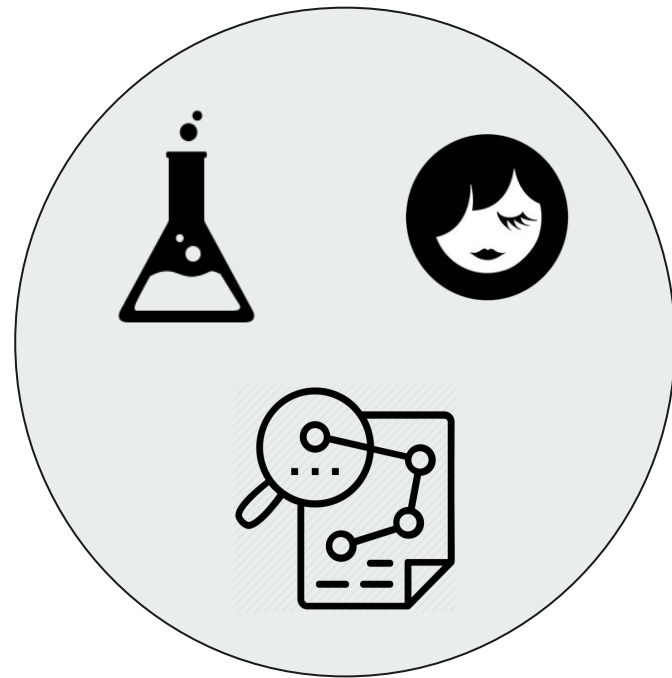
- Ingredients are key to the property and effectiveness of a product.
eg. Titanium dioxide (TiO₂) → sunscreens
- Ingredients analysis can be very helpful for people to search for proper products.
- Ingredients are hard to read and difficult to search for a common user.

Proposed Solutions

- A search tool contains two search modes:

Basic search: for query-relevant products

Ingredient search: for similar product
- Combines IR techniques with Chemistry as well as my interest in beauty products!



Dataset


- Downloaded from:

[Kaggle: all products available on Sephora website.](#)

- 9000+ Beauty products.

- Over 7500 products have ingredients.

Skincare > Moisturizers > Moisturizers



Estée Lauder
Advanced Time Zone Night Age
Reversing Line/Wrinkle Crème
SIZE 1.7 oz/ 50 mL • ITEM 1475664

★★★★★ 30 reviews | ❤️ 7.1K loves
online only

\$85.00
Pay in 4 interest-free
payments of \$21.25
Klarna. ⓘ

You're only \$50.00 away from Free Shipping. [Shipping & Returns](#)

Online Only
Reservation not offered for this item

Details | How to Use | **Ingredients** | About the Brand | Shipping & Returns

Adv Timezone Night Age Rvr Lw Crm Division: El (Estee Lauder)Ingredients: Water , Bis-Diglyceryl Polyacyladipate-2 , Hdi/Ppg/Polycaprolactone Crosspolymer , Simmondsia Chinensis (Jojoba) Seed Oil , Glycerin , Caprylic/Capric Triglyceride , C12-20 Acid Peg-8 Ester , Dimethicone , Butylene Glycol , Sucrose , Cetyl Alcohol , Citrullus Vulgaris (Watermelon) Fruit Extract , Sigesbeckia Orientalis (St. Paul'S Wort) Extract , Pyrus Malus (Apple) Fruit Extract , Lens Esculenta (Lentil) Fruit Extract , Centaurium Erythraea (Centaury) Extract , Hordeum Vulgare (Barley) Extract/Extrait D'Orge , Cucumis Sativus (Cucumber) Fruit Extract , Tamarindus Indica Seed Extract , Salicornia Herbacea Extract , Polygonum Cuspidatum Root Extract , Vitis Vinifera (Grape) Seed Extract , Hydrolyzed Rice Extract , Rosmarinus Officinalis (Rosemary) Extract , Selaginella Tamariscina (Spike



Implementation

Basic Implementation

- Programming Language: Python
- Web Framework and UI: Flask
- Dataset: Sephora
- Searching API: Elasticsearch

Indexing:

- content: brand + name + details + how_to_use
- ingredients
- product info: brand, name, url, etc.
(for results retrieval)

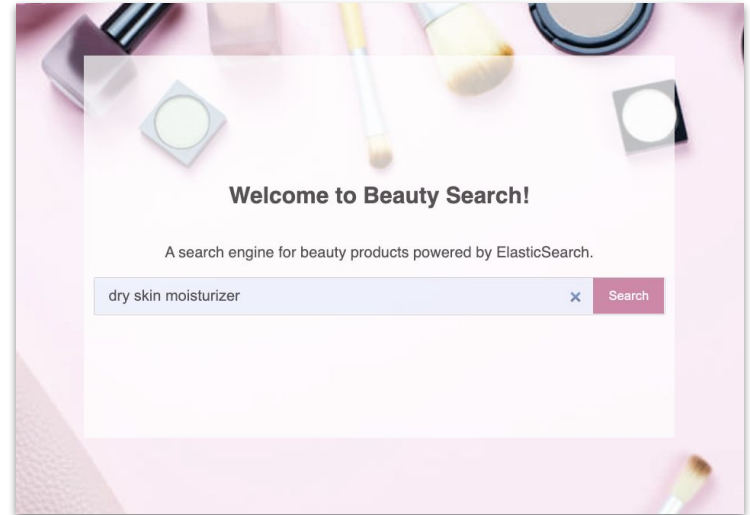
Implementation

Search mode 1:

- Get relevant products with query.
- Search with: “details”

Search mode 2:


- Get similar products based on given ingredients.
- Search with: “ingredients”



Implementation

Result Presentation:

- Related products:
 - brand and name
 - url
 - description
- Similar products:
 - brand and name
 - URL



Search Again

TOP 10 relevant products for query: dry skin moisturizer

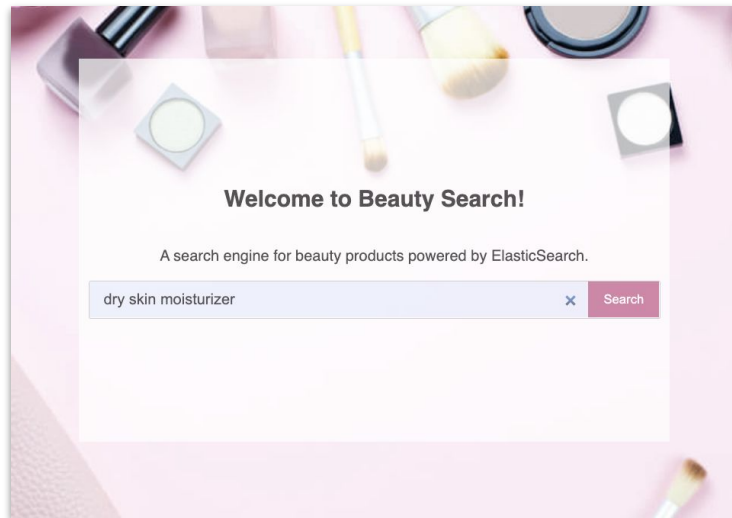
TOM FORD
Oil-Free Daily Moisturizer
<https://www.sephora.com/product/oil-free-daily-moisturizer-P411715?icid2=products.grid:p411715>
Which skin type is it good for? ✓ Normal ✓ Oily ✓ Combination ✓ Dry ✓ Sensitive What it is: A lightweight- quick-absorbing moisturizer that hydrates skin while energizing for a mattified- polished look
Similar Products:
Estée Lauder | Advanced Time Zone Night Age Reversing Line/Wrinkle Crème
CLINIQUE | Repairwear Laser Focus Line Smoothing Cream Broad Spectrum SPF 15 for Very Dry to Dry Combination Skin
La Mer | The Body Crème
CLINIQUE | Repairwear Laser Focus Night Line Smoothing Cream for Very Dry to Dry Combination Skin

CLINIQUE
Smart Broad Spectrum SPF 15 Custom-Repair Moisturizer for Very Dry to Dry Skin
<https://www.sephora.com/product/smart-broad-spectrum-spf-15-custom-repair-moisturizer-for-very-dry-to-dry-skin-P405285?icid2=products.grid:p405285>
What it is:A moisturizer for very dry to dry skin types- which helps visibly smooth lines and wrinkles- brighten- and strengthen skin's moisture barrier
Similar Products:
CLINIQUE | Smart Broad Spectrum SPF 15 Custom-Repair Moisturizer for Dry Combination Skin
CLINIQUE | Smart Night™ Custom-Repair Moisturizer - Dry Combination
CLINIQUE | Smart Night Custom-Repair Moisturizer -Combination Oily to Oily
CLINIQUE | Smart Night Custom-Repair Moisturizer - Very Dry to Dry



Demo

[Open Beauty-Search](#)





Q&A