



# Clean at Sephora

## - INTERACTIONS & RECOMMENDATIONS

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# Today's Agenda

Overview

Recommender  
System

Problems to  
Check

Further Thoughts



# Overview: What is Clean at Sephora

**Clean at Sephora products are formulated without:** Sulfates—SLS + SLES, Parabens, Formaldehydes, Formaldehyde-releasing agents, Phthalates, Mineral Oil, Retinyl Palmitate, Oxybenzone, Coal Tar, Hydroquinone, Triclosan, Triclocarban, etc

**How many on their without list:** around 50 ingredients





# Problems to Look at

1

What's Top Clean Ingredients?

3

What's are the versatile and good products?

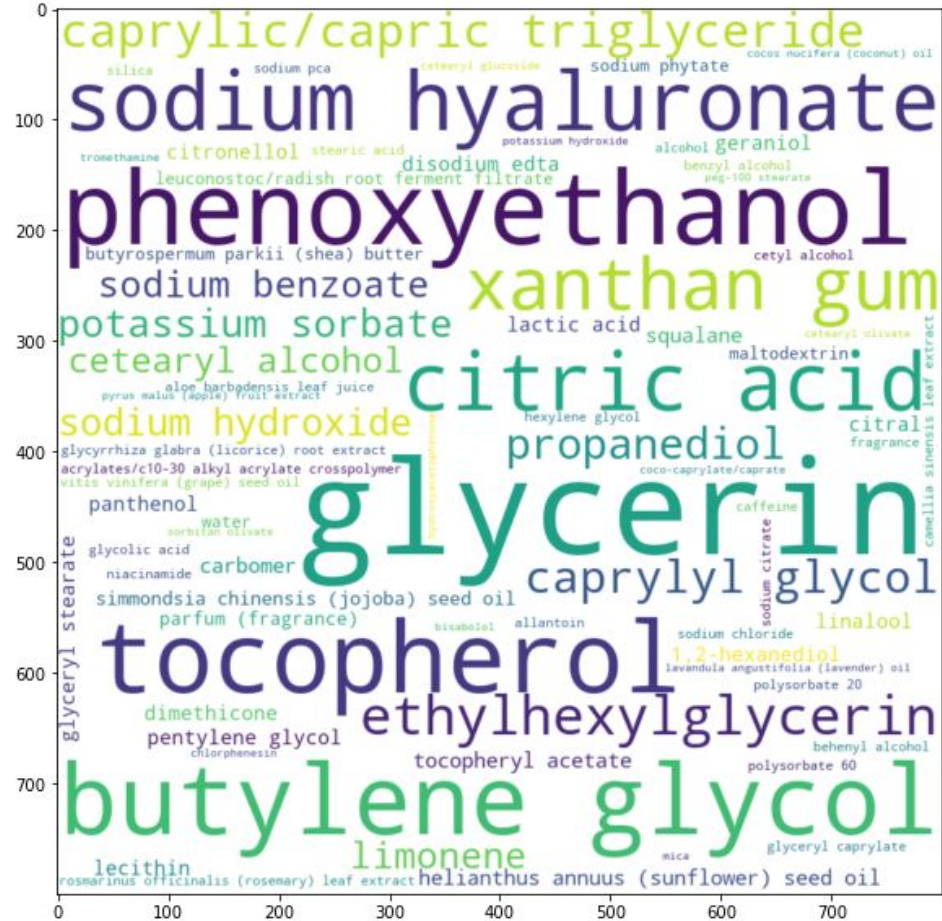
2

Clinical test supports real results?

4

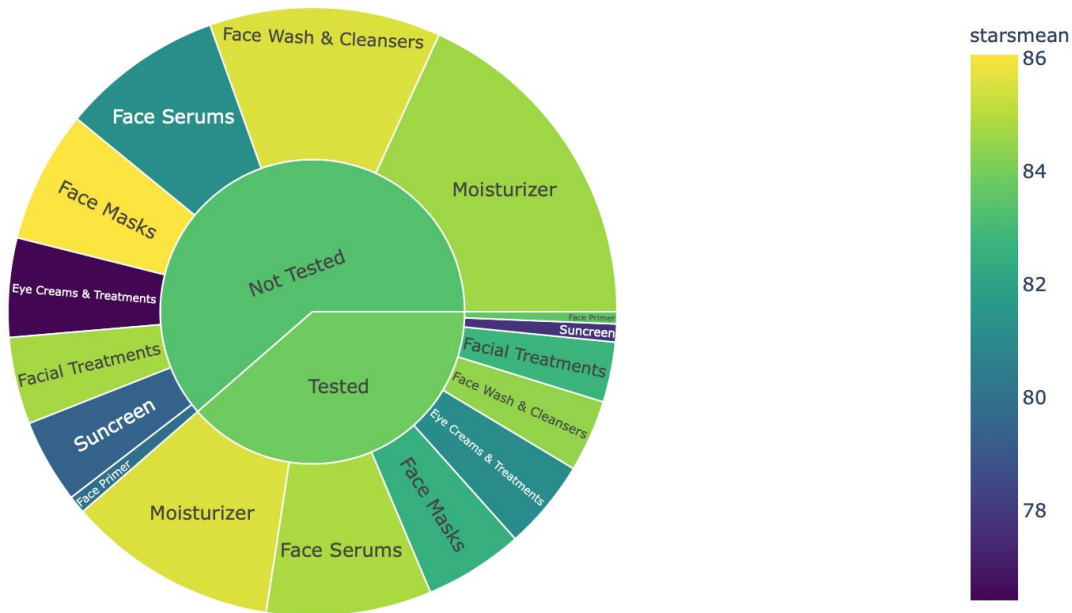
What's our users profile?

# Clean Ingredients?



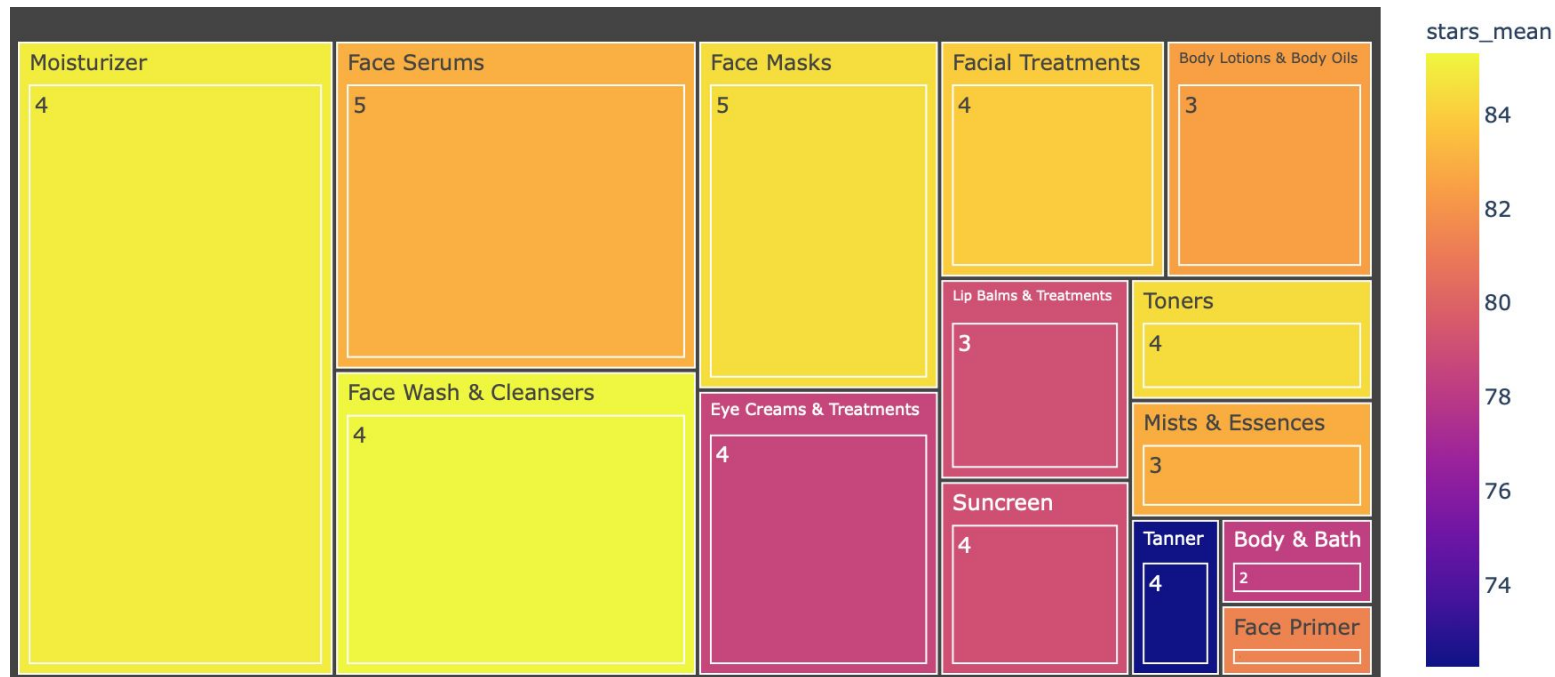
# Clinical results grants good?

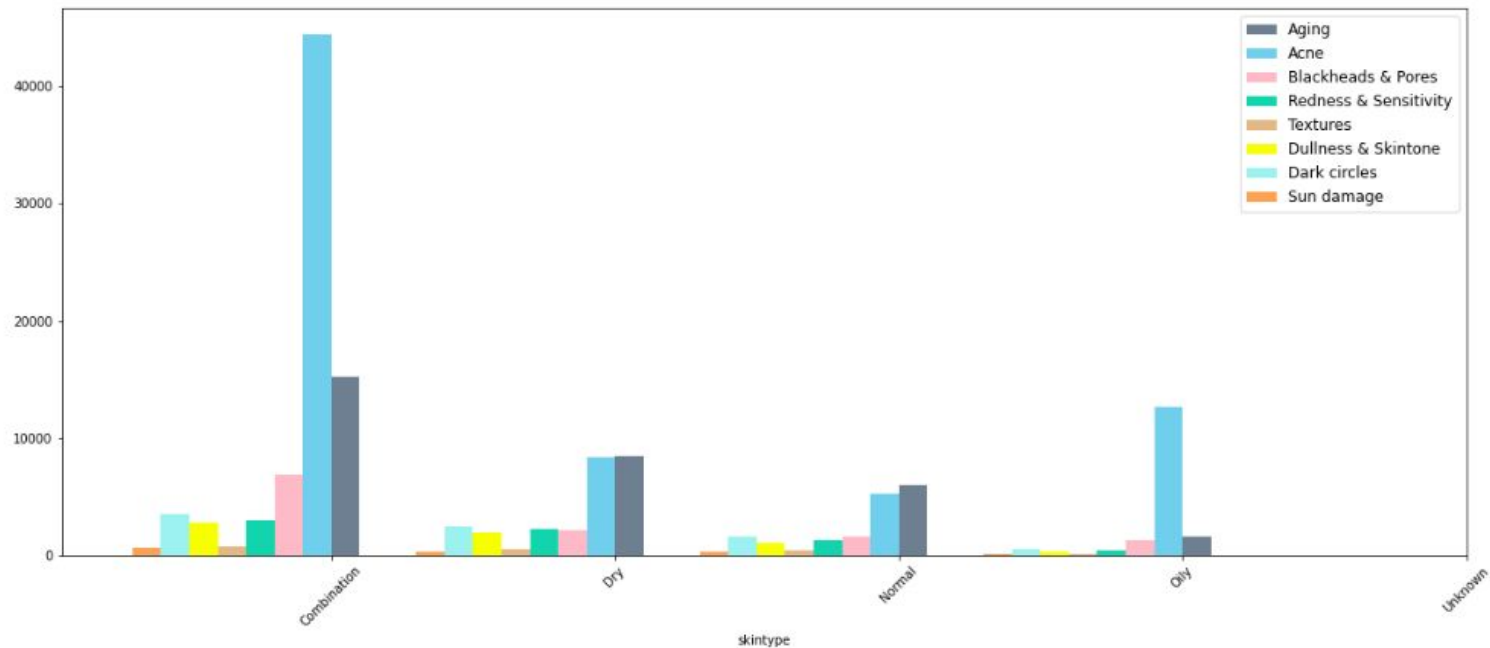
Clinical test might have some guarantees



# One can do all?

Category, Rating, Concerns - **Mask** is the winner

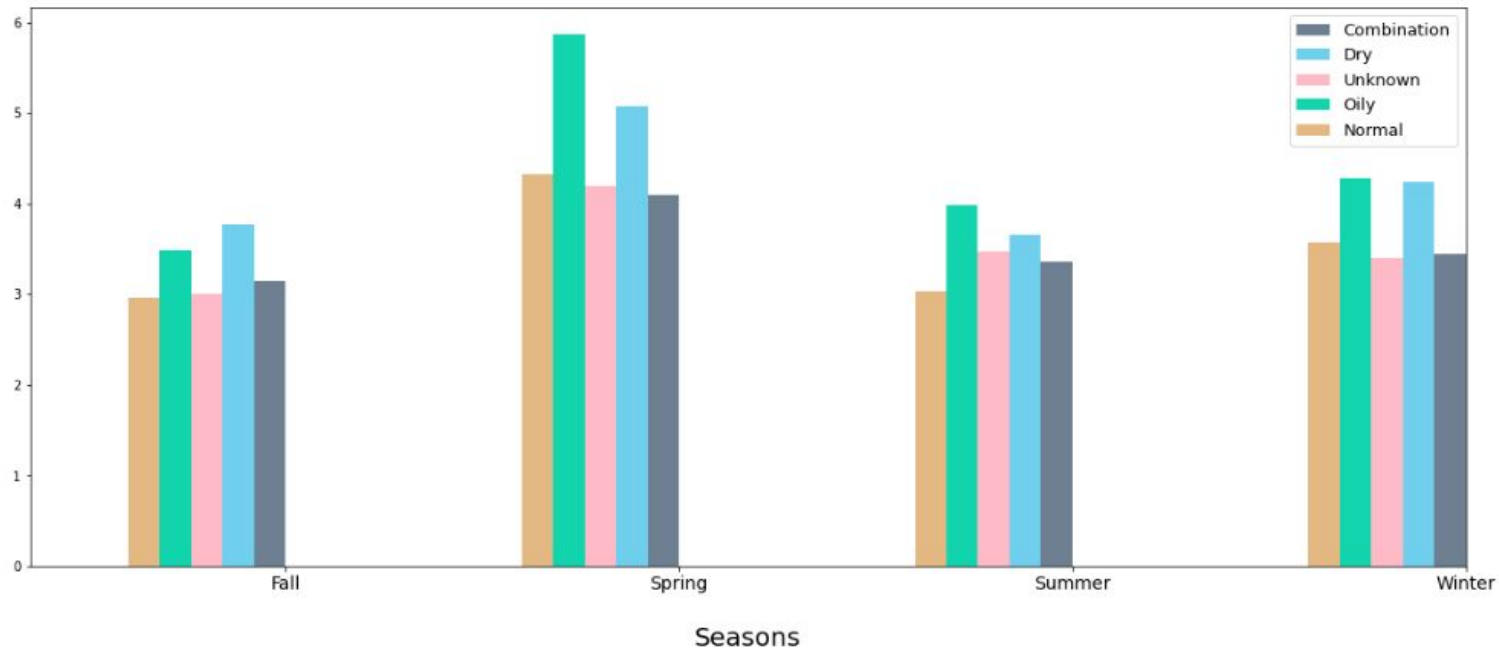








# Who's Words are Trustful? Oily skin users





# Recommender Systems

- 1 Product similarities
- 2 User Product interactions
- 3 Combination



# What are we using to model?

## Ratings

User A likes Product B

## Users

Skin types, Skin tones, Skin concerns

## Products

Ingredients, Skin type, Skin Concern, Awards, Clinical Results, Names, Brands, Categories



# Recommender System



## Surprise

User-product interactions

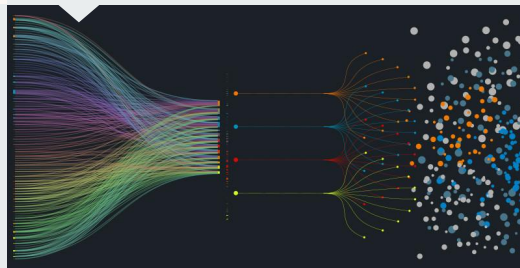
## LightFM Hybrid

Product similarity & user similarity



## LightFM

Product similarities or  
User similarities



# Recommender System & Accuracies

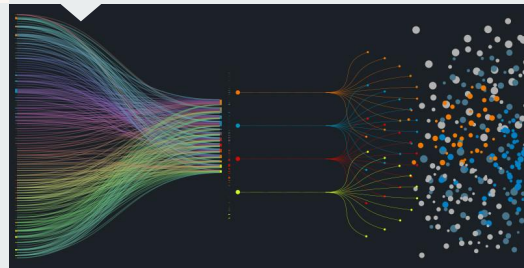


**Surprise**

88.2%

**LightFM Hybrid**

86.25%



**LightFM**

User only: 87.3%  
Product only: 81%



# Findings

## Interactions

Who bought what?



Top

## User Features

User's Skin profile



Second

## Product Features

Product brands, name, ingredients



Third



## Note for Sephora

User > Product?

User experiences speaks a lot more than a product



## Further Thoughts

- What about **User Similarities**?
  - Recommender system should be more than user-product interaction; **geographical features** can be incorporated
- What about **Product Changes through Time (esp Visual Features)**
- What about **Categories**?
  - For skincare, if someone purchased a moisturizer, do we want to recommend another moisturizer or do we want to recommend a cleanser?





**Thank you.**

**Any questions?**