

Understanding the Customer

FARFETCH

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Data Science

June 20, 2019

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github.com/acdlck/farfetch_understanding_the_customer

Online Luxury Retail: The Farfetch Platform and Marketplace



Over 3,000 Brands

Over 190 Countries

The Mission of the Data Science Team

Who They Are

Understanding the Customer

What They Want

How to Get Their Attention

Who They Are: A Data Science Approach

16,105 (9,667 Unique) Customer Reviews

Pieces Bought	Rating
Product URL	Reviewed By

Data Product Inputs

Original Price Sales Discount	Designer
Gender	Category

13,518 Unique Product Details

Consumer Journey

Touch-Driven Recommender Engine

Live Checkpoint for Inventory Stockouts

Non-Repeating Rolling Recommendations

Synchronization with NoSQL Database

A Touch-Driven Recommender Engine

**The Most-Rated
Individual Products
3x Recommendations**

**The “Best Nine”
Most-Rated Subcategories
9x Recommendations**

**Collaborative Filtering
Singular Value Decomposition
Nx Recommendations**

Unpersonalized

Consumer Journey

Personalized

**The “Best One”
Most-Rated Subcategory
3x Recommendations**

**Content-Based Similarity
Pearson Correlation
3x Recommendations**

The Most-Rated Individual Products



Gucci Accessories
15 Product Ratings



Buffalo Shoes
13 Product Ratings



Adidas Shoes
10 Product Ratings

The “Best One” Most-Rated Subcategory



**Adidas Shoes
8 Product Ratings**



**Adidas Shoes
5 Product Ratings**



**Adidas Shoes
5 Product Ratings**

The “Best Nine” Most-Rated Subcategories

**Adidas
Bags**

**3
Subcategory
Ratings**



**Dolce & Gabbana
Bags**

**50
Subcategory
Ratings**



**Gucci
Bags**

**78
Subcategory
Ratings**



**Adidas
Clothing**

**83
Subcategory
Ratings**



**Dolce & Gabbana
Clothing**

**205
Subcategory
Ratings**



**Gucci
Clothing**

**52
Subcategory
Ratings**



**Adidas
Shoes**

**375
Subcategory
Ratings**



**Dolce & Gabbana
Shoes**

**131
Subcategory
Ratings**



**Gucci
Shoes**

**153
Subcategory
Ratings**



Content-Based Similarity: Pearson Correlation



\$103

Original Price

\$103

50% Off

Discount

50% Off

Men

Gender

Men

Imported

Made In

Imported

Shoes

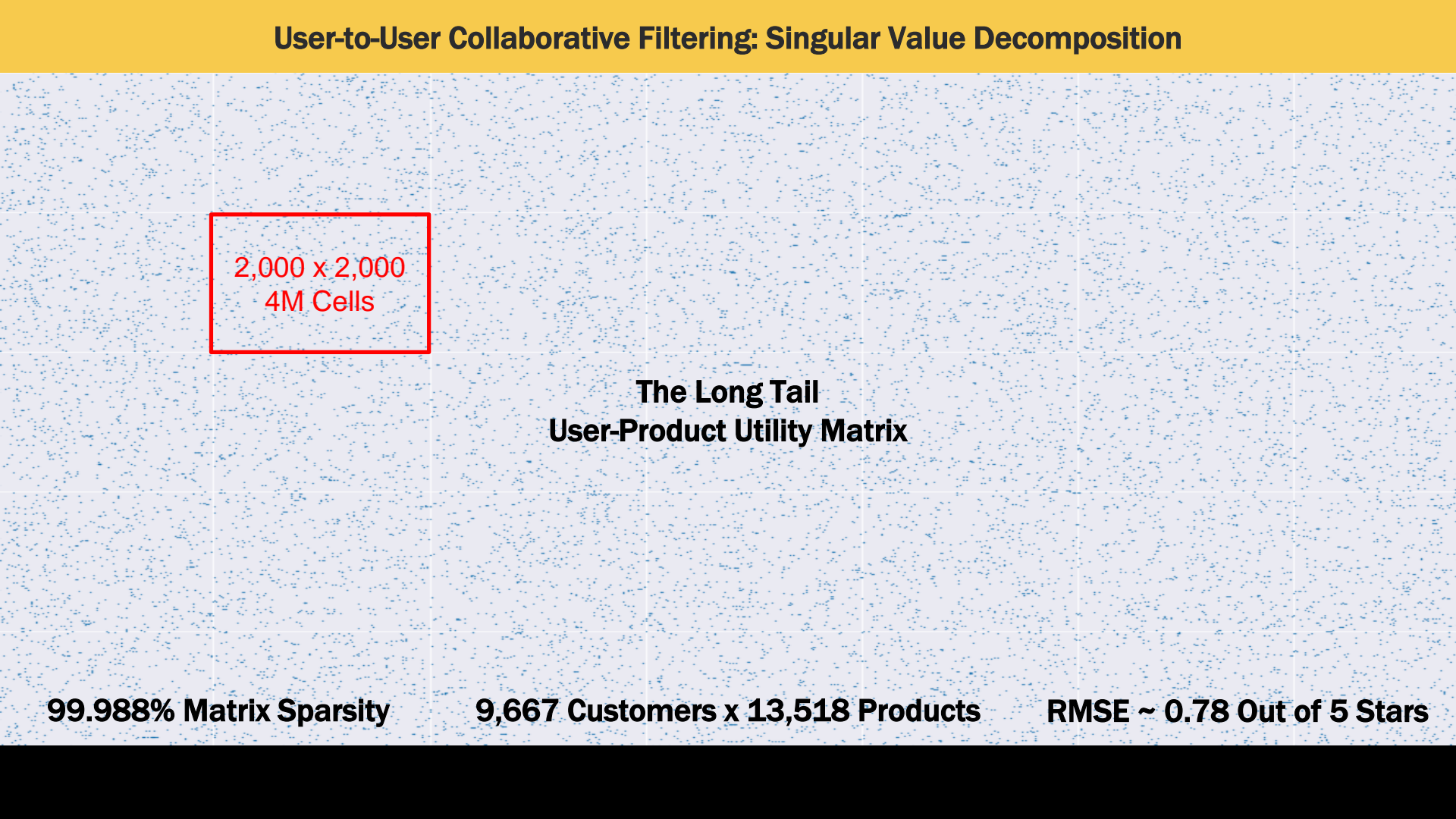
Category

Shoes

User-Rated Favorite Product

Most-Correlated Product

User-to-User Collaborative Filtering: Singular Value Decomposition



2,000 x 2,000
4M Cells

The Long Tail
User-Product Utility Matrix

99.988% Matrix Sparsity

9,667 Customers x 13,518 Products

RMSE ~ 0.78 Out of 5 Stars

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The Project Data Stack

Business Understanding	Brand Management Consumer Journeys
Data Mining & Cleaning	Requests BeautifulSoup
Data Warehousing	JSON NoSQL / MongoDB
Data Exploration Feature Engineering	Python / Numpy Pandas
Predictive Modeling	Surprise / SVD GridSearchCV
Data Visualization	Matplotlib / Seaborn Selenium Webdriver