

Applications: Computer Vision for Fashion

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Overview

1 Overview

2 Data Science in Fashion

3 Computer Vision in Fashion

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Why Fashion?

- Fashion is a \$2.4 Trillion industry worldwide that is growing at about 5.5% per year
- It is the world's 7th largest economy, measured in terms of GDP
- 1000s of brands vying for attention
- Discerning, demanding, unpredictable customers
- Digital transformation is disrupting the industry

Data Science and Machine Learning in Fashion

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Data Science in Fashion

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Data Science in Fashion

- Recommendation & Personalization

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- Pricing

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- Pricing
- Fraud & Authentication

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Computer Vision in Fashion

- Object Detection and Localization/Segmentation

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- Visual Search

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- Object Detection and Localization/Segmentation
- Visual Search
- Aspect Extraction

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- Augmented Reality

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Recommendation Engines for Fashion

- Similar Item Recommendation
- Complementary Item Recommendation

Some factors unique to Fashion

- Brand-awareness
- Price
- Size
- Stylistically coherent recommendations

Similar Items / Related Products Recommendations

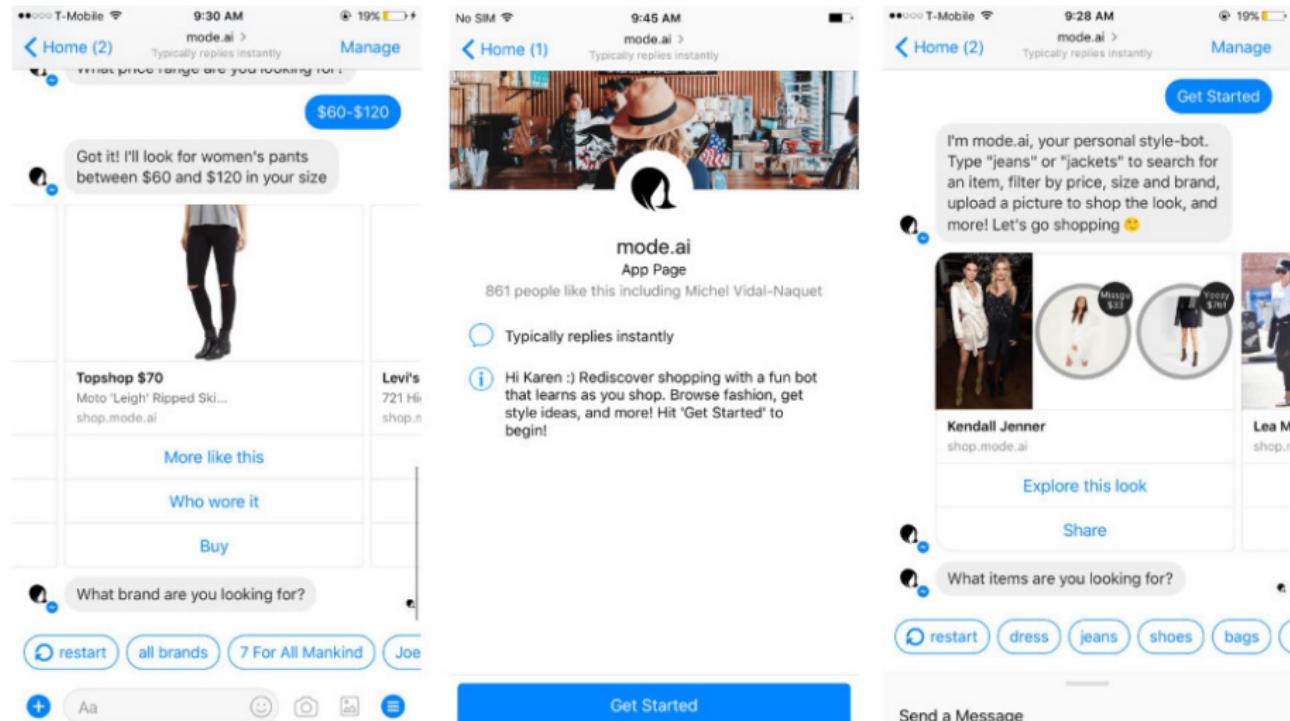


Figure: Source - IPG Media Lab

How do we solve Similar Item Recommendations?

- Co-views
- Brand/Color similarity
- Title/Description/Visual similarity
- Price segmentation



Back to previous page

| Listed in category: Clothing, Shoes & Accessories > Women's Clothing > Coats & Jackets

Clothing, Shoes & Accessories > Women's Clothing > Suits & Blazers

SAVE WITH EVERYDAY LOW PRICES [See all eligible items ▶](#)**Alpine Swiss Duffy Women's Hooded Parka Fur Trim W**

1 sold in last hour

Condition: **New with tags**Size (Women's): Color: Quantity: Limited quantity available
2,293 sold / See feedbackList price: **US \$200.00** You save: **US \$175.01 (88% off)**Now: **US \$24.99****Buy It Now****Add to cart**

Add to watch list

Add to collection

2,293 sold

More than 67% sold

30-day returns



People who viewed this item also viewed

Feedback on our suggestions



SPONSORED

Womens Winter Warm Long
Coat Fur Collar Hooded Jac...

\$25.59

\$31.99

Free shipping



SPONSORED

Women's Motorcycle PU
Leather Jacket Zipper Coat...

\$22.66

\$28.33

Free shipping



SPONSORED

Alpine Swiss Bella Women's
Belted Blazer Button Up Wo...

\$14.99

Free shipping



SPONSORED

Womens Slim Windbreaker
Double Breasted Long Trench...

\$22.99

\$24.20

Free shipping



Alpine Swiss Duffy Women's
Hooded Parka Fur Trim Wool...

\$24.99

\$200.00

Free shipping



Womens Warm Long Coat Fur
Collar Hooded Jacket Slim...

\$16.89

Free shipping



50% off Prime for College Students.

LEARN MORE

[« Back to search results for "alpine swiss"](#)

alpine swiss Women's AS709 Duffy Wool Coat Fur Trim Hooded Parka Jacket

★★★★★ 5 customer reviews

| 31 answered questions

Price: \$48.88 - \$49.99

Fit: As expected (64%)

Size:

Select

Size Chart

Color: Black



- Wool Blends
- Removable Zippered Collar with Fur Trim Hood
- SEE MEASUREMENTS IN IMAGES & measure against your favorite fitting coat to get your fit right. This Helps avoid Exchanges.
- Gold Accent Zipper and Snaps, Toggle Button Closure
- Superb Design for a Flattering Fit. 2 Outer Pockets Hidden in Seam

Full Length Double Breasted Duffle Coat Design



Customers who viewed this item also bought



iLoveSIA
\$44.99



Stjubileens
\$39.99 - \$43.99

Sponsored products related to this item (What's this?)



alpine swiss Emma
Women's Navy Wool 3/4
Length Double Breasted
Peacoat Small
★★★★★ 94
\$39.99 prime



Alpine Swiss Stella
Women's Gray Wool Single
Button 7/8 Length
Overcoat XL
★★★★★ 102
\$34.99 prime



alpine swiss Women's Plus
Size Wool Overcoat Classic
Notch Lapel Walking Coat
Gry 1XL
★★★★★ 8
\$29.99



Zeago Women's Peacoat
Double Breasted Overcoat
Long Sleeve Jacket Black
M
★★★★★ 14
\$50.49 prime



alpine swiss Emma
Women's Burgundy Wool
3/4 Length Double
Breasted Peacoat Large
Blk 1XL
★★★★★ 94
\$39.99 prime



alpine swiss Women's Plus
Size Wool Overcoat Classic
Notch Lapel Walking Coat
Blk 1XL
★★★★★ 8
\$29.99

Ac



Some Techniques for Complementary Recommendations

- Co-purchases/Co-clicks
- Main-item / Accessory relationships
- Category tree / Taxonomy relationships
- Mining Fashion blogs / Celebrity Styles

10 Simple Ways to Look More Put Together Without Really Trying

FEATURED, OUTFIT IDEAS, STYLE NEWS, WHAT'S TRENDING / March 12, 2018 / By Sarah Wetmore

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RECENT POSTS



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March 19, 2018



Shoe of the Week:
Alchemia Di Ballin
Booties

March 19, 2018



So Many Reasons to Get
Trench Coats on eBay
Today

March 19, 2018



Brand to Know: Suzanne
Rae



Fashion Recommendation Example Blogs

eBay Style Stories

► Style Story

Stylecaster

► Stylecaster blog

Fraud and Authentication

Fashion Fraud

- Fashion is the most popular product category in Cross-Border trade
- Fluctuating fashion trends and consumer tastes makes differentiating real from fraudulent hard
- High ASP for Fashion products makes fraudulent transactions more attractive
- Fraud on Luxury products is 2X consumer fashion products

Source: [► Riskified Blog](#)

WONDERMIKA.COM



FAKE

Signature CC pattern
does not line up



REAL

Pattern lines up even
under a seam

Figure: Source: Wondermika.com

Fraudulent products Identification

- Extreme expertise required
- Logo, Font, Material, Stitching quality
- Anti-fraud features like micro-printing
- Specially trained human verifiers
- Slowly, CV algorithms are stepping in (e.g. [Entrupy](#))

Overview

1 Overview

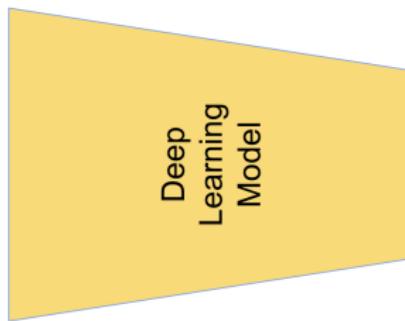
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Computer Vision tasks in Fashion

- Object Detection
- Object Localization
- Aspect Extraction
- Visual Similarity
- Augmented Reality

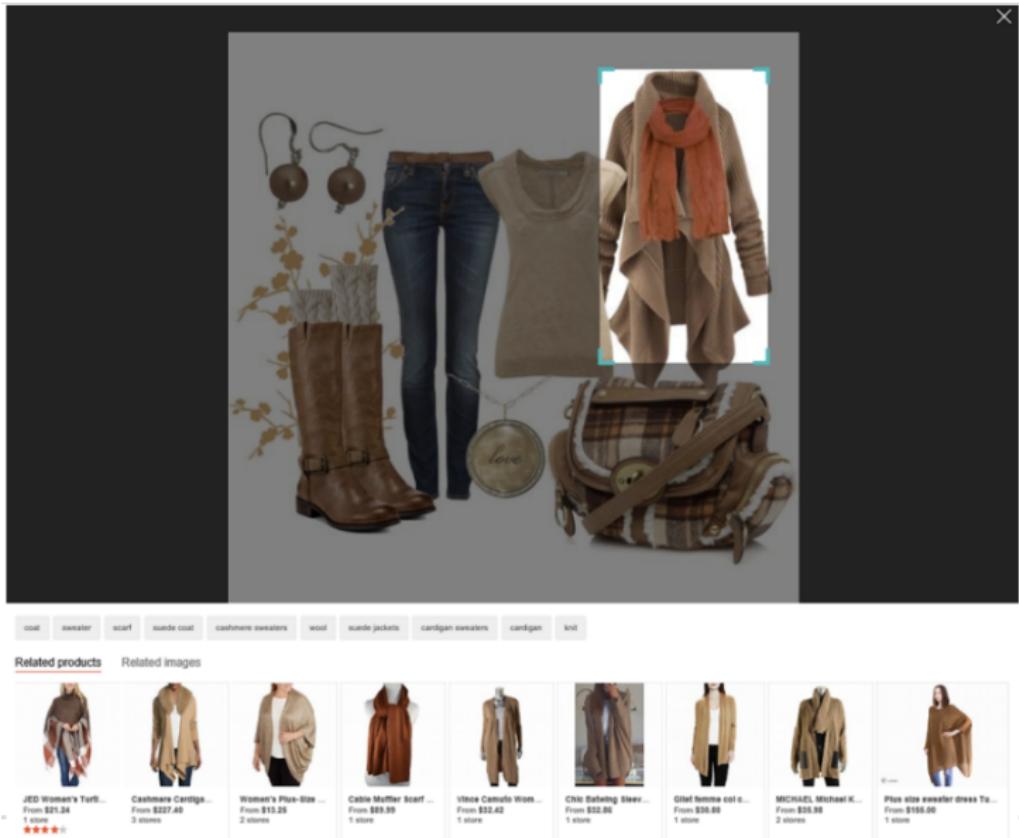
Object Detection



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5.8

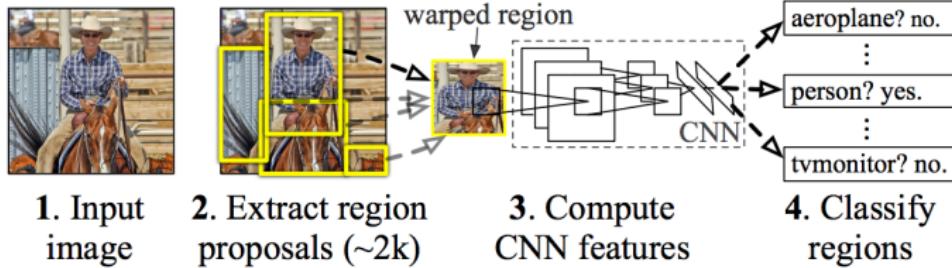
Men's Shoes
Athletic
Men's Shoes
Boots
Dresses
Chairs
...
Handbags
Earrings
LEGO

Object Localization



Object Localization

R-CNN: *Regions with CNN features*



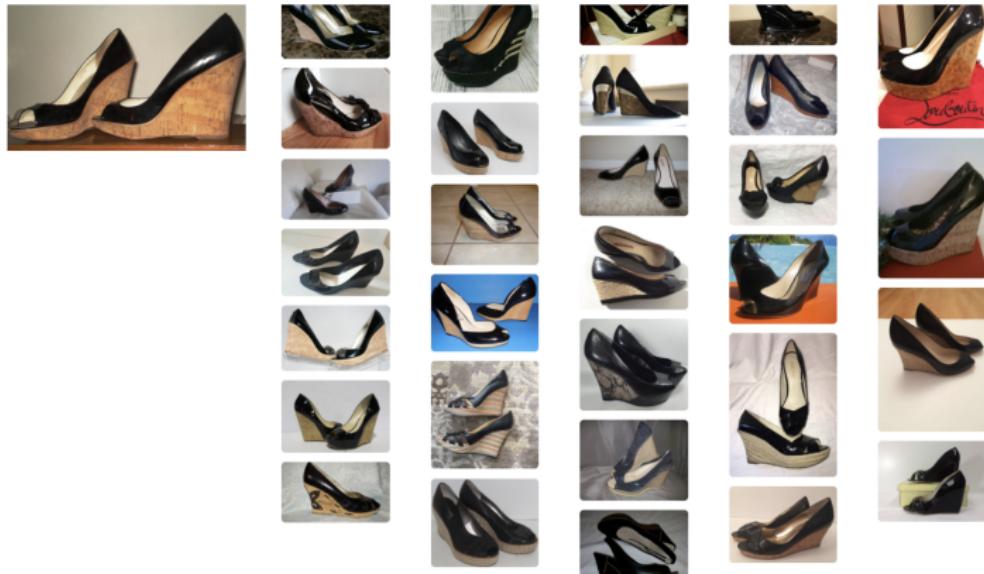
Object Localization



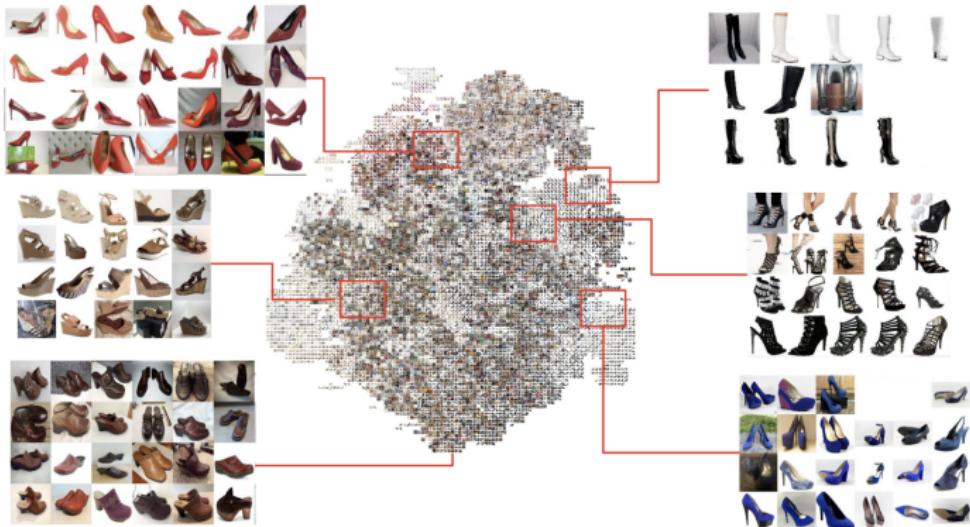
Semantic Segmentation



Visual Similarity



Visual Similarity



thank you

The word 'thank you' is the central focus, surrounded by numerous other words in different languages, each also representing 'thank you' or related gratitude. The languages include: German (danke), Chinese (謝謝), Swahili (ngiyabonga), Turkish (tesekkür ederim), French (merci), Spanish (gracias), English (thank you), Russian (спасибо), Polish (dziękuje), Indonesian (terima kasih), Korean (감사합니다), Vietnamese (cảm ơn), Portuguese (obrigado), Dutch (dankbaar), Italian (grazie), Arabic (شكراً), Hebrew (תודה), and many more.