Levi's 2021 Global Hackathon ELT Presentation

09/14/2021

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AI-based Design Forecast

Fashionologists

Team

Alberto - Data Scientist

Madrid, Spain

Cristobal - Menswear Designer

LA, USA

Dovile - Business Analyst & PM

Brussels, Belgium

Filipa - Data Scientist

Brussels, Belgium

Madeline - Raw Material Planner

San Francisco, USA

Prashant - Dev-Ops Engineer

Bangalore, India

Qiang - Data Engineer

London, UK

Vincente - Data Engineer

Barcelona, Spain

Product Design process calls for AI driven fashion forecast to never miss a trend, increase efficiency, productivity and reduce manual efforts

Product design process consists of a **2-month long** physical and digital trend research effort. After **numerous working sessions** and alignment meetings between design teams this **information gets translated into actual product concepts and sketches**. Designs are then **reviewed by each region to address different expectations** across the globe before product hits the market

- With AI and ML capabilities we are aiming to **bring design up to speed** while matching consumers' needs and future preferences. Simultaneously **innovate design** and **elevate shopping experience**
- We can **move from manual** trend spotting to an **automated** approach that is more **efficient** and requires **fewer human efforts**
- With Natural Language Processing and Computer Vision models we are enabling **advanced capture** of colors, fits and fabrics of upcoming season, hence **eliminating a risk to miss a trend or mismatch our consumer taste**. Eventually, by having more appealing products **increase revenue and margin**
- Expected annual benefit by reaching 3% revenue uplift* on men's tops category in UK & California omnichannel is $2.2M

Computer Vision and NLP use fashion data to identify colors, fits and fabrics for fashion experts to lead new products design

1 Stage

Built robust **pipelines to collect** 3 years of **data** from 3 different magazines, gathering twenty-five thousand articles and one hundred thousand images everything in one and a half days

2 Stage

By means of CV and deep learning, digested every single image from every former season **automatically providing a prediction on both which color palettes and which relevant fits will define the next seasons**

NLP listened to the voice of fashion experts and **predicted predominance of fabrics**

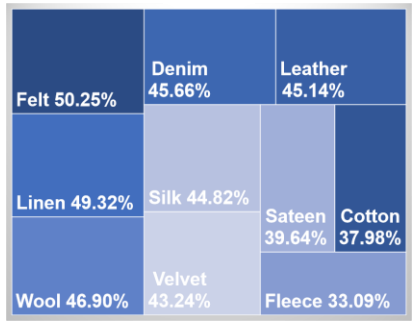
3 Stage

Finally, **designers took the predictions** about color, fits and fabrics in their creative moment as an **inspiration and guidance to sketch the new product** line for FW'22 season

Collected the data from fashion magazines

"are going from the minimalism of sweatpants to the maximalism of, well, wearing an entire wardrobe at once. Shirts over shirts over dresses, sweaters tied around waists, and scarves by the neckful are all worn together, making for a new kind of eclectic, bold silhouette"

Built the models to predict fits, fabrics and colors



Fits:
- 40% Slim
- 30% Standard
- 25% Relaxed
- 5% Oversized

Knit versus Woven:
- 23% Knit
- 77% Woven

Designed the products using AI predictions

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Towards AI driven fashion design, more automation and go to market

Phase 1

Project design phase
2022 Q1

- Identify Stakeholders
- Align expectations and strategy
- Agree the product release period (e.g., seasonal products)
- Select project team
- Define project scope
- Design and shape go-to market and testing strategy
- Prepare timeline for 2022

Phase 2

Implementation phase
2022 Q1-Q2

- Identify and collect required data sources
- Develop Computer vision and natural language processing models
- Prepare outputs ready to use by fashion designers
- Automate the flow

Phase 3

Application and design process
2023 FW

- On-board fashion designers to apply AI recommendations to design process
- Design new products
- Prepare for testing

Sign off/Thank You/Questions?

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