

# Outfit combination suggestion

Data in retail - Adidas and Nike products

# Our team



## Tran Dang Huy

**Role:** Member, Data Scientist, Machine Learning Engineer  
**Strengths:** Visualization, Math and Statistics, Python



## Huynh Minh Duc

**Role:** Team Leader, Backend Developer  
**Strengths:** Java, Javascript, Python, SQL



## Cao Thi Yen Vy

**Role:** Member, Frontend Developer, QA Tester  
**Strengths:** Python, PHP



## Nguyen Hai Ngoc Huyen

**Role:** Member, Data analyst, Project Manager  
**Strengths:** Python, SQL, Math and Statistics, Visualization



## Ta Hoang Kim Thy

**Role:** Member, Data analyst, UX/UI Designer  
**Strengths:** Python, MySQL, NLP

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# 01

## INTRODUCTION

# PROBLEM

- Ever struggled with daily outfit choices?
- Overwhelmed by coordinating clothes for style and appropriateness?
- Wished for a personal stylist to optimize your wardrobe and save time and energy?





# MISSION STATEMENT

Our solution aims to simplify and streamline outfit selection, enhancing user enjoyment with a personalized, convenient service that boosts their fashion sense.

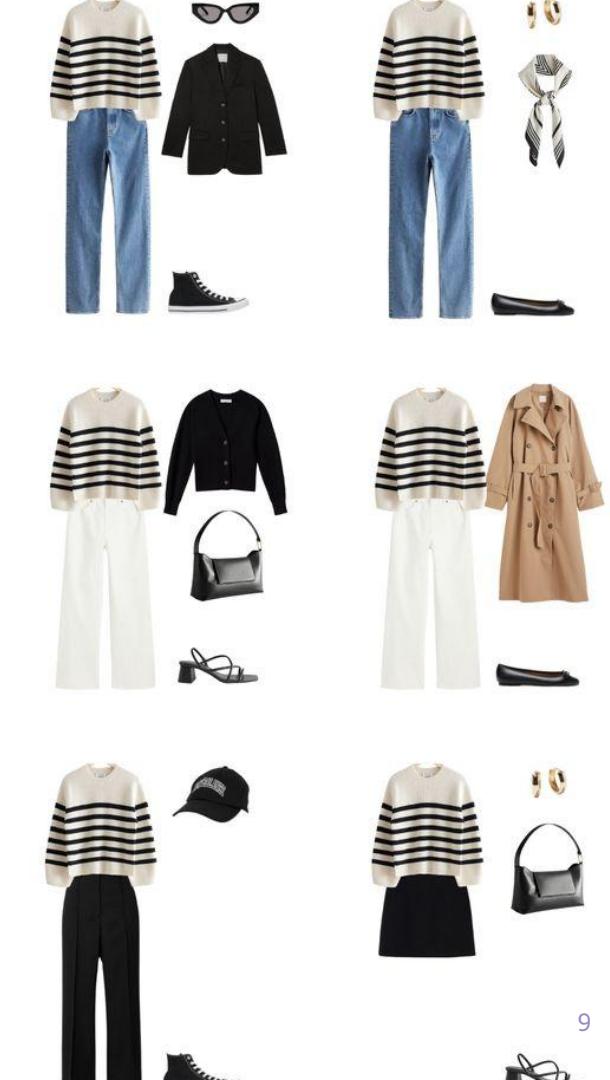
# How it works ?

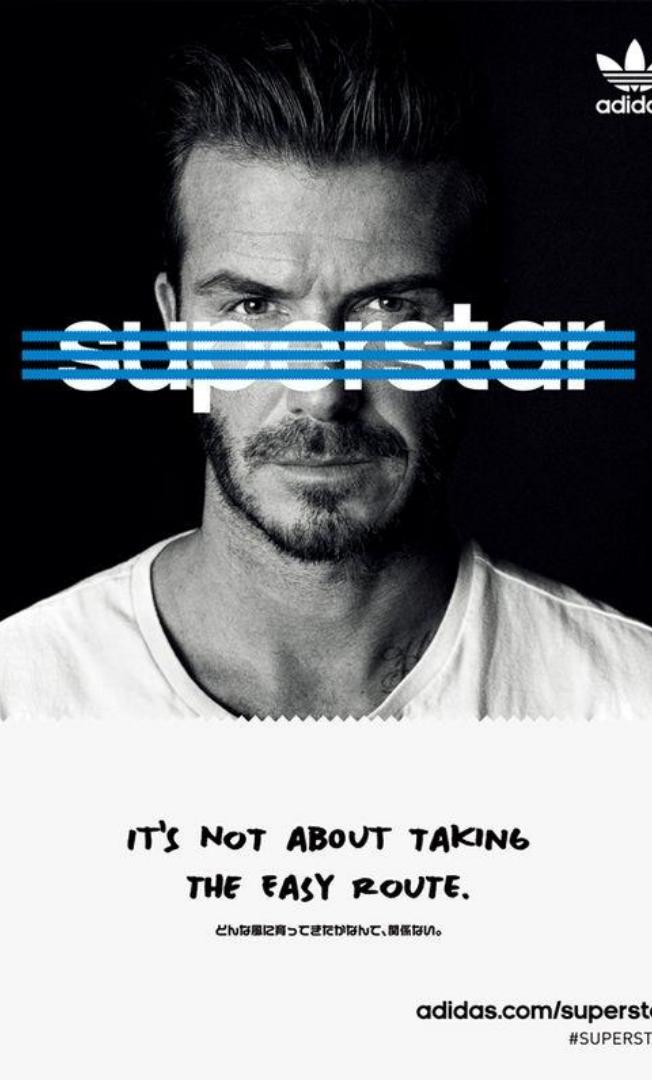
By using AI and machine learning, our solution analyzes the user's wardrobe and style preferences to generate tailored outfit suggestions. It also offers feedback and style improvement tips.



# 02

## PROBLEM STATEMENT





## Current Fashion Shopping Experience

- Users often face challenges in creating well-coordinated outfits when shopping.
- Existing platforms may primarily offer single-item recommendations.

## User Diversity and Style Preferences

- Customers have diverse preferences when it comes to fashion (color, style, material preferences...)
- Meeting individual style expectations is crucial for customer satisfaction but can be challenging due to the wide range of tastes.

## Need for Comprehensive Recommendations

Users want guidance not just for individual clothing items but also for combining them into fashionable outfits. The challenge is to move beyond single-item recommendations and offer users complete, visually appealing outfit suggestions.

## Utilizing AI for Personalization

- Leveraging AI, particularly through methods is essential to understand and cater to individual user preferences.
- The challenge involves developing a system that learns from user interactions, captures fashion trends, and generates outfit recommendations that align with each user's unique style.





## Brand-Specific Focus on Nike and Adidas

The MVP focuses on Nike and Adidas, aiming to offer specialized outfit recommendations within their catalogs. This demands a nuanced understanding of each brand's aesthetics to align suggested outfits with their identity and resonate with users.

## Enhancing User Engagement and Satisfaction

The goal is to enhance the shopping experience by providing users with what they seek and inspiring them with personalized outfit ideas. Balancing personalization and diversity is the challenge, ensuring recommendations cater to a broad user base.

# The pain points & inefficiencies associated with the problem



## Limited Guidance in Fashion Choices

Users often lack guidance in combining fashion items to create cohesive outfits, leading to feelings of overwhelm or uncertainty about pairing different pieces.



## Time-Consuming Selection Process

Shopping for fashion items can be time-consuming, particularly when users need to navigate a vast catalog to find complementary pieces. Without outfit coordination guidance, users may spend a significant amount of time assembling individual items.

# The pain points & inefficiencies associated with the problem



## Diverse User Preferences

Users have diverse preferences in terms of style, color choices, and material preferences. Conventional platforms may struggle to address this diversity, leading to recommendations that do not align with individual tastes.



## Potential Fashion Faux Pas

Without proper guidance, users may unintentionally combine items that clash in terms of style or color, resulting in fashion faux pas. This can lead to dissatisfaction and a negative user experience.

# The pain points & inefficiencies associated with the problem



## **Underutilized Potential of AI**

Fashion platforms may not fully harness the potential of AI for personalized outfit recommendations, leading to missed opportunities in enhancing user engagement and satisfaction.



## **Brand-Specific Challenges**

Each brand, like Nike and Adidas, has a unique aesthetic. Conveying brand-specific fashion recommendations demands a nuanced understanding of each brand's identity, presenting a challenge in aligning personalized outfit suggestions with their distinctive characteristics.

# The pain points & inefficiencies associated with the problem



## Missed Cross-Selling Opportunities

Conventional approaches may concentrate on individual product recommendations, overlooking opportunities for cross-selling complementary items from the same brand or collection. This oversight can affect both user satisfaction and potential brand revenue.



## Overlooking Seasonal Trends

In the fast-paced fashion industry, seasonal trends play a crucial role. Failure to incorporate current trends into recommendations may result in outdated or less relevant suggestions. Users may miss out on staying on-trend and fashionable.

# The current landscape and positioning of the competitors

Existing Fashion E-commerce Platforms	AI-Powered Fashion Apps	Brand-Specific Apps
Identify major e-commerce platforms (like Amazon, Shoppee,...) that specialize in fashion retail. These platforms often provide a range of products and may offer some form of personalized recommendations.	Explore applications or platforms that leverage artificial intelligence for personalized fashion suggestions. Look for apps that use ML algorithms to understand user preferences and provide tailored recommendations.	Consider applications or platforms specifically associated with fashion brands, especially those similar to Nike and Adidas. Some brands may have their own apps offering personalized recommendations.

# The current landscape and positioning of the competitors

Fashion Aggregator Platforms	Social Media Platforms	Startups and Innovators
Look into aggregator platforms that curate fashion items from multiple brands. These platforms may employ AI algorithms to offer personalized suggestions based on user preferences.	Social media platforms, especially those with a focus on visual content, may play a role in influencing fashion choices. Explore features or apps within social media that offer personalized fashion recommendations.	Keep an eye on startups and innovative companies entering the fashion-tech space. Startups often bring fresh approaches and technologies to personalized fashion recommendations.

# The current landscape and positioning of the competitors

Customer Reviews and Feedback	Collaborations with Brands	Data Privacy and Security
Analyze customer reviews and feedback on existing fashion recommendation platforms. Understand the strengths and weaknesses of each platform from the user perspective.	Explore collaborations between fashion platforms and major brands. Some platforms may have exclusive partnerships that enhance their ability to provide personalized recommendations.	Assess how competitors handle data privacy and security. Users are increasingly concerned about the protection of their personal information, especially in AI-driven recommendation systems.

# 03

## SOLUTION OVERVIEW



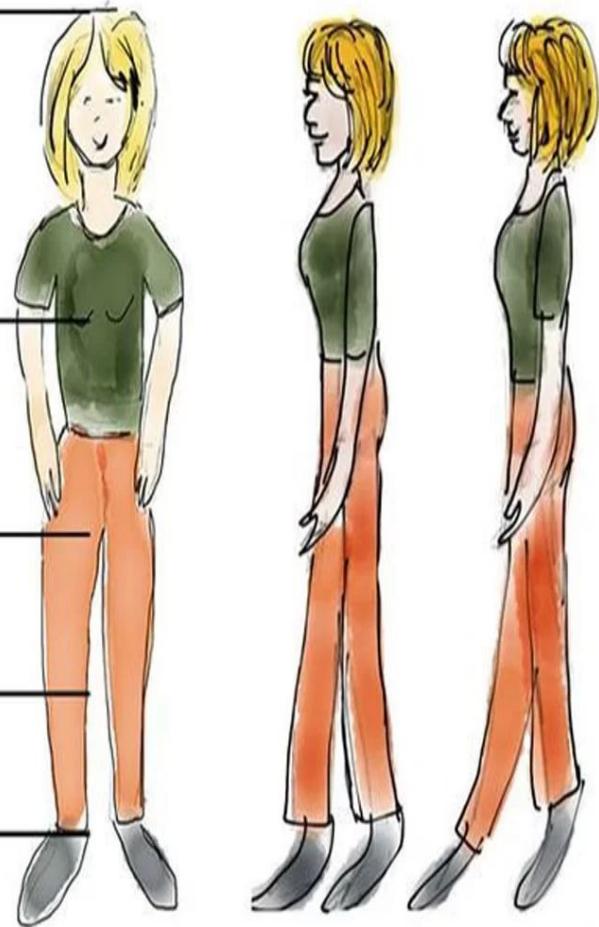
Let's have an overview with our given dataset, this dataset contains information in over 1500+ Adidas and 100+ Nike products

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	description	brand	color	currency	price	availability	images	avg_rating	review_count	scrapped_at									
2	Focus	adidas	White	USD		20 InStock	https://as	4.5	8	52:09.8	https://www.adidas.com/us/foil-mandala-graphic-tee/H14684.html								
3	Cover up	adidas	Blue	USD		52 InStock	https://as	4.8	43	51:11.5	https://www.adidas.com/us/farm-rio-print-relaxed-lightweight-windbreaker/GS6301.html								
4	There's nc	adidas	Black	USD		24 InStock	https://as	4.8	84	50:53.0	https://www.adidas.com/us/adilette-comfort-slides/FY8836.html								
5	Training	adidas	Pink	USD		20 InStock	https://as	5	51	52:20.7	https://www.adidas.com/us/santiago-lunch-bag/EX6529.html								
6	Country	adidas	Blue	USD		32 InStock	https://as	4.8	39	52:13.7	https://www.adidas.com/us/club-tennis-3-stripes-tee/H34691.html								
7	Step into	adidas	White	USD		56 InStock	https://as	4.4	594	50:39.4	https://www.adidas.com/us/cloudfoam-pure-2.0-shoes/GV7307.html								
8	Rejuvenat	adidas	White	USD		28 InStock	https://as	4.7	3812	50:33.1	https://www.adidas.com/us/adilette-comfort-slides/GV9738.html								
9	Lunge,	adidas	Blue	USD		36 InStock	https://as	3.7	20	50:50.6	https://www.adidas.com/usdesigned-to-move-high-rise-sport-zebra-7-8-tights/GT0135.html								
10	A SWEAT-	Nike		USD		28 OutOfStock	https://static.nike.com/a/imagi	20/09/2021	https://www.nike.com/t/dri-fit-little-kids-base-layer-top-gkHvFf										
11	Give every	adidas	Grey	USD		15 InStock	https://as	5	5	52:24.1	https://www.adidas.com/us/cushioned-x-mid-crew-socks-3-pairs/EX7146.html								
12	Wear ther	adidas	Black	USD		56 InStock	https://as	4.5	41	51:26.2	https://www.adidas.com/us/originals-flex-shoes/GZ7017.html								
13	Â Inspired	Nike	Psychic Blt	USD		95 InStock	https://static.nike.com/a/imagi	20/09/2021	https://www.nike.com/t/air-jordan-1-low-se-big-kids-shoes-X6sqJT										
14	Workout	adidas	Blue	USD		44 InStock	https://as	4.7	44	50:33.4	https://www.adidas.com/us/adidas-sportswear-future-icons-logo-graphic-pants/H39799.html								
15	Take off.	adidas	White	USD		72 InStock	https://as	4.3	151	52:31.9	https://www.adidas.com/us/supernova-plus-shoes/FX2858.html								
16	Kids seem	adidas	Black	USD		48 InStock	https://as	4.9	18	51:27.3	https://www.adidas.com/us/puremotion-shoes/GZ5243.html								
17	What do s	adidas	Multi	USD		46 InStock	https://as	4.7	1599	51:20.8	https://www.adidas.com/us/nizza-platform-shoes/GZ8856.html								
18	LEGENDA	Nike	White/Bla	USD		76.97 InStock				20/09/2021	https://www.nike.com/t/air-force-1-lv8-utility-big-kids-shoes-hj36Vc								
19	Get the fit	adidas	Blue	USD		21 InStock	https://as	4.5	46	51:09.9	https://www.adidas.com/us/aeroready-designed-to-move-sport-motion-logo-tee/H28784.html								
20	Every min	adidas	Green	USD		48 InStock	https://as	4.9	27	52:01.9	https://www.adidas.com/us/zx-2k-shoes/H02368.html								

We will focus on two columns 'description' and 'images' to perform data preprocessing and model building.

# HIGH-LEVEL OVERVIEW

- Data aggregation
- User Profiling
- Collaborative Filtering
- Content-Based Filtering
- Neural Networks and Deep Learning
- Image Analysis
- Natural Language Processing (NLP)
- Real-time Learning & Adaptation
- User-Friendly Interface
- Brand-Specific Recommendations
- Performance Evaluation & Feedback Loop



## Data aggregation

The system aggregates a diverse dataset comprising information on over 1500+ Adidas and 1000+ Nike fashion products, sourced from various channels. This dataset includes product names, descriptions, colors, prices, images, customer ratings, reviews, and other relevant details.

## User Profiling

The AI system creates user profiles based on individual preferences, past interactions, and historical data. User profiling involves analyzing the user's style preferences, color choices, and other relevant factors to understand their unique fashion taste.

## Collaborative Filtering

The recommendation system uses collaborative filtering to understand how users relate to products. It uses both user-based and item-based approaches to suggest personalized recommendations based on user behavior and preferences.



# ORIGINALS

## Content-Based Filtering

Content-based filtering techniques are implemented to analyze the characteristics of each product, such as style, color, and material. This approach enhances recommendations by considering the intrinsic features of the items in addition to user preferences.

## Neural Networks and Deep Learning

The system uses neural networks and deep learning models, to capture complex user-item interactions in fashion. This helps it learn detailed relationships for more precise and sophisticated recommendations.

## Image Analysis

Image analysis using Convolutional Neural Networks (CNNs) is employed to extract features from product images. This enhances the system's ability to recommend visually appealing outfit combinations by considering the aesthetics of each item.

# Natural Language Processing (NLP)

NLP techniques are applied to understand and analyze product descriptions, customer descriptions, and customer reviews. This enables the system to gain insights into the style and characteristics of each product, contributing to more context-aware recommendations.



## Real-time Learning & Adaptation

The AI system is designed to continuously learn and adapt to user preferences and changing fashion trends. Real-time updates ensure that recommendations remain relevant and aligned with the latest styles and preferences.





## Brand-Specific Recommendations

The solution takes into account the brand-specific characteristics of Nike and Adidas products, ensuring that recommendations align with the unique styles and identities of these brands.

## Performance Evaluation & Feedback Loop

The system collects user feedback, including purchases and ratings, to continually refine its algorithms and improve the quality of future outfit suggestions.

# Innovation and Novelty

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## Innovation

Enhances the shopping experience of customers.

Helps retail businesses leverage their product data to maximize their product sales

## Novelty

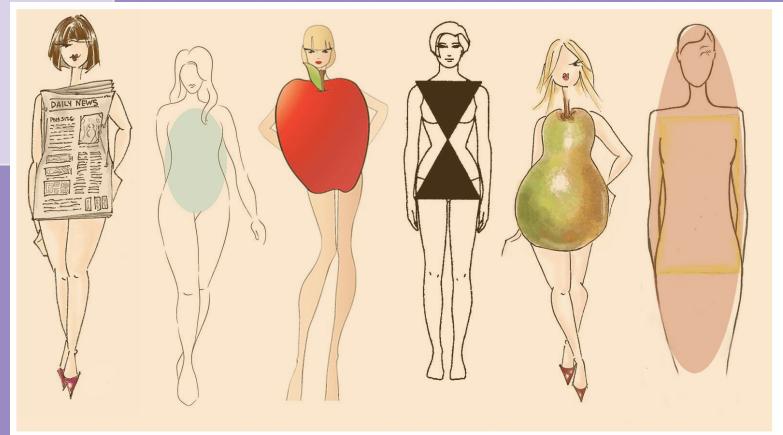
Provide accurate, personalized suggestions for each user.

Advising customers on choosing beautiful outfits that suit their body shape, such as outfit combinations for short people, outfit combinations for thin people, etc.,



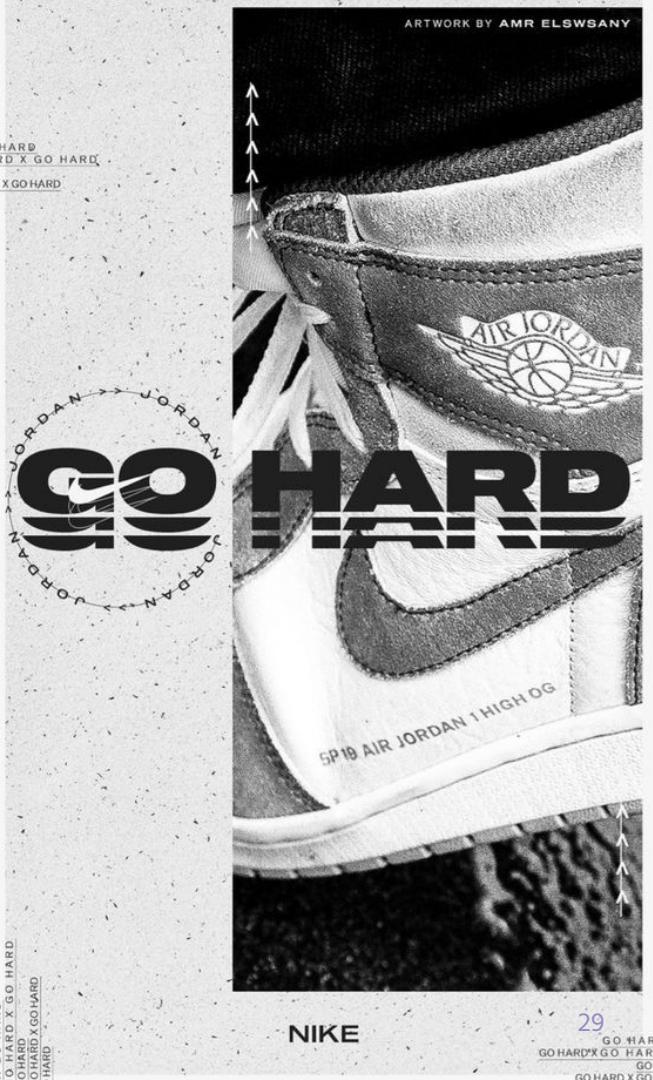
# Innovation

# Novelty



# 04

## METHODOLOGIES



# Description of the architecture or structure of the AI model

## Recommendation Engine

**Collaborative Filtering:** Collaborative filtering techniques (e.g., User-based or Item-based) can be used to make product recommendations based on user behavior and preferences.

**Matrix Factorization:** Techniques like Singular Value Decomposition (SVD) can help in making personalized outfit recommendations.

**Convolutional Neural Networks (CNNs):** CNNs can be used to analyze and process images of clothing items to extract features and identify their characteristics.

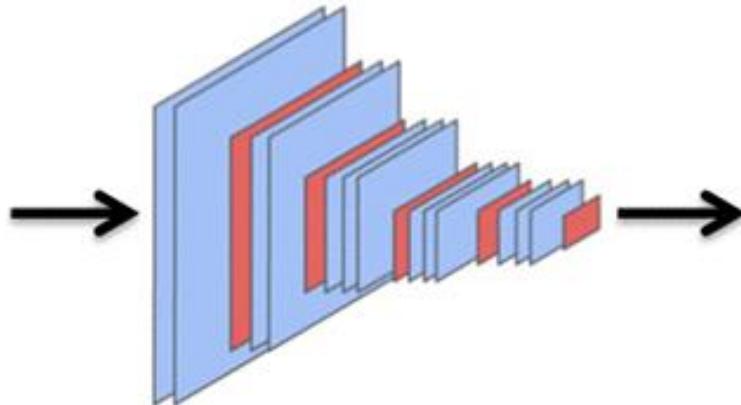
**StyleGAN:** Style-based Generative Adversarial Networks can be used for generating new outfit ideas based on user-uploaded images.

## Image Analysis

reference images



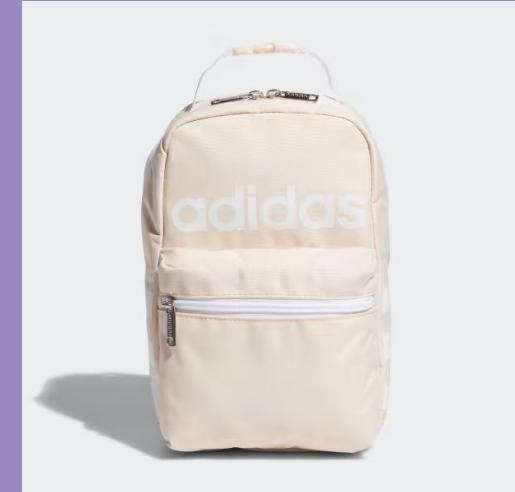
CNN model



feature vector

2048  
numbers

The 'images' column contains all the images of a product separated by ~, we will save all images of each product from many different angles and put them into the CNN model, however However, some links are broken because the product may have been removed or no longer have images, so we can use web-scraping to scrape more images back.



# Description of the architecture or structure of the AI model

## Natural Language Processing (NLP)

**Word Embeddings:** Techniques like Word2Vec, GloVe, or fastText can be used to represent product descriptions and reviews as numerical vectors.

**Recurrent Neural Networks (RNNs) or Transformer Models:** These can be used to analyze and understand the textual content for style and characteristics.

**Chatbots:** Implement chatbots with Natural Language Understanding (NLU) to facilitate user interactions, answer queries, and provide outfit suggestions.

**Recommender System APIs:** Use APIs for user interaction, where users can input their preferences and receive outfit recommendations through web or mobile interfaces.

## User Interaction

- The 'description' column contains the description of a product. **For example:** "Focus your confidence as you move through the day. This adidas graphic t-shirt bumps up the style of any look with a foil-print mandala graphic. When it goes on, you'll look as good as you feel in the soft cotton jersey fabric."
- Use text preprocessing techniques to extract descriptive features of a product such as:
  1. **Product Type:** Based on terms like "graphic t-shirt" and "soft cotton jersey fabric," we can determine that the product is a t-shirt with a graphic print and made from soft cotton jersey fabric.
  2. **Style and Design:** The phrase "foil-print mandala graphic" helps identify the style and design of the product, indicating a mandala print with a foil-printing technique.
  3. **Features or Unique Characteristics:** "Bumps up the style of any look" suggests that the product has the ability to enhance the style of any outfit.
  4. **Material and Feel:** "Soft cotton jersey fabric" describes the fabric material and its softness, providing information about the comfortable wearing experience.
  5. **Impact on the Wearer:** "You'll look as good as you feel" indicates a positive impact of the product on the wearer, suggesting that it could be a confidence-boosting choice.

# Description of the architecture or structure of the AI model

## Evaluation and Feedback Loop

**Reinforcement Learning:** Implement reinforcement learning to optimize the recommendation algorithms based on user feedback and purchases.



# Explain the key components, layers, or modules of the model

CNNs (Convolutional Neural Networks)	RNNs (Recurrent Neural Networks)	Transformer Models
<p>CNNs are commonly used for image analysis. They consist of convolutional layers, pooling layers, and fully connected layers.</p> <p>Convolutional layers apply filters to input images, capturing features at different scales.</p> <p>Pooling layers reduce the spatial dimensions of the feature maps.</p>	<p>RNNs are designed for sequence data, such as text or time series data.</p> <p>They have recurrent connections that allow information to persist across time steps, making them suitable for tasks that involve sequences or time dependencies.</p>	<p>Transformers use self-attention mechanisms to process sequences in parallel, making them highly efficient for tasks involving long-range dependencies in data.</p> <p>Models like BERT, GPT, and T5 are based on transformers and have achieved state-of-the-art results in various NLP tasks.</p>

Input

Convolution

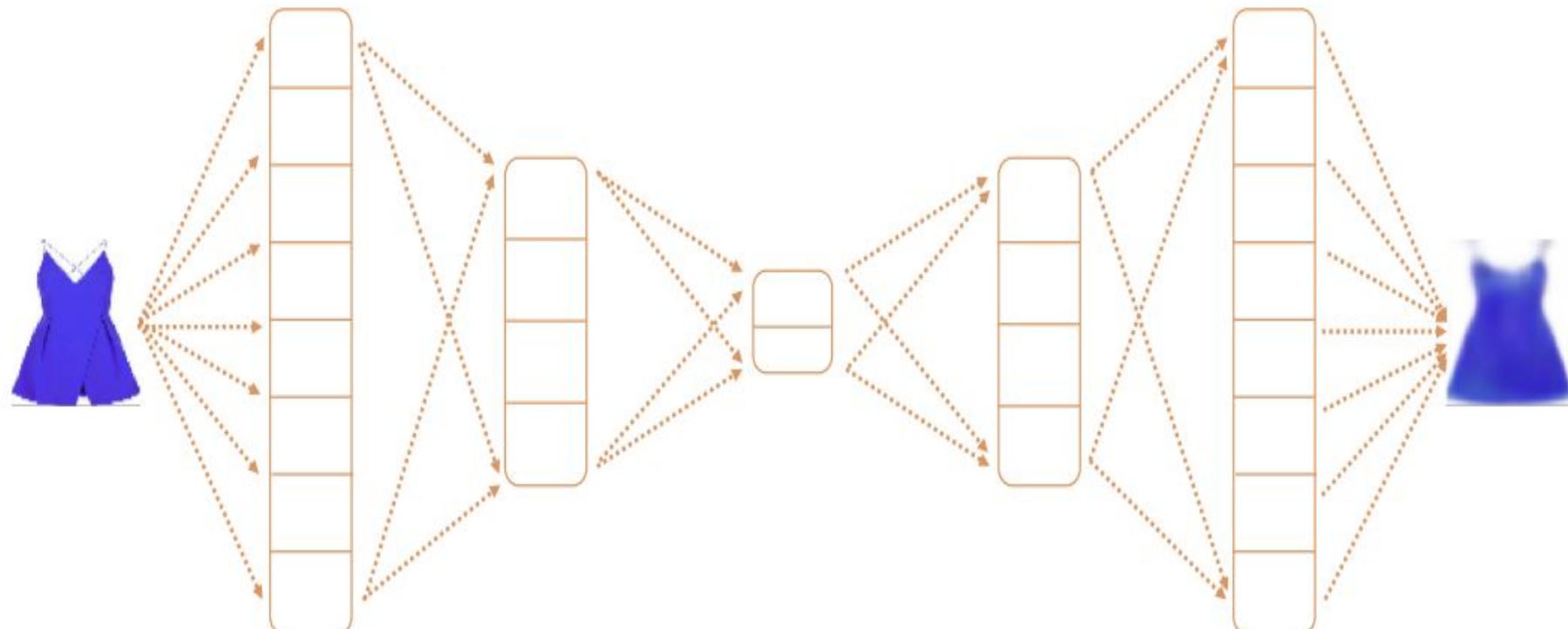
Pool

Encoded Layer

Up Sample

Convolution

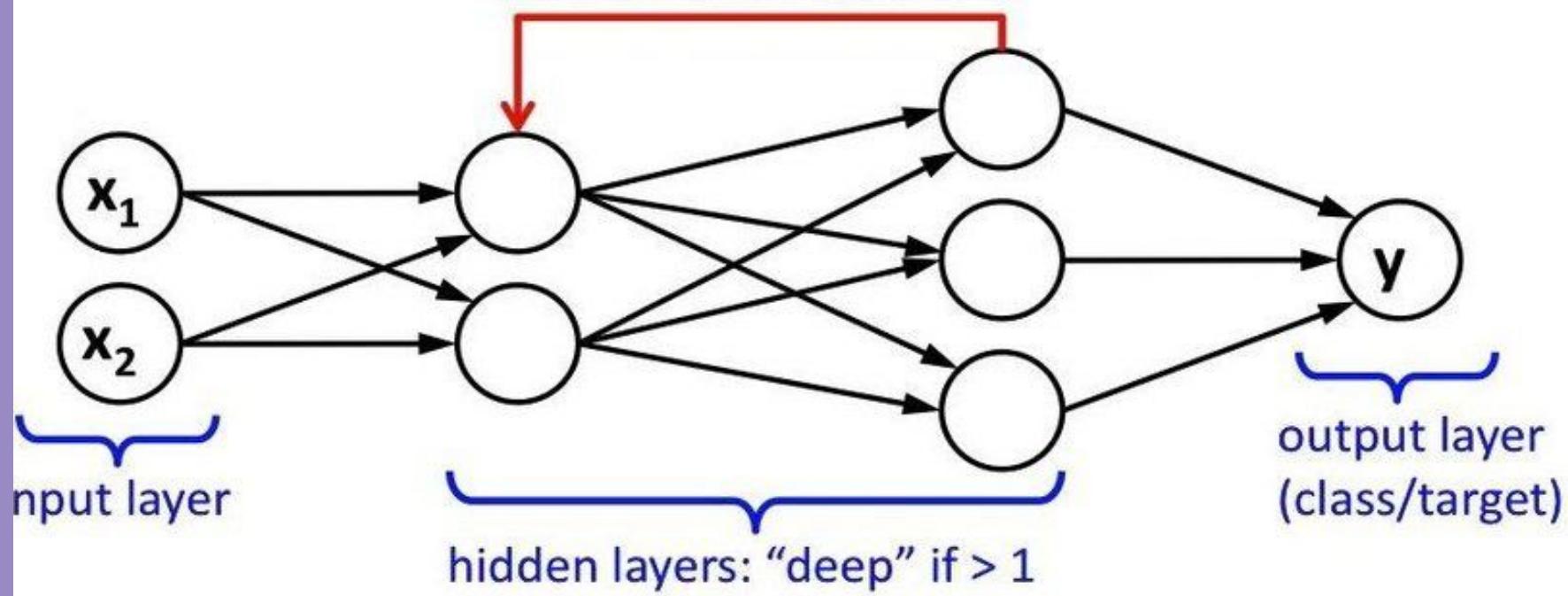
Output



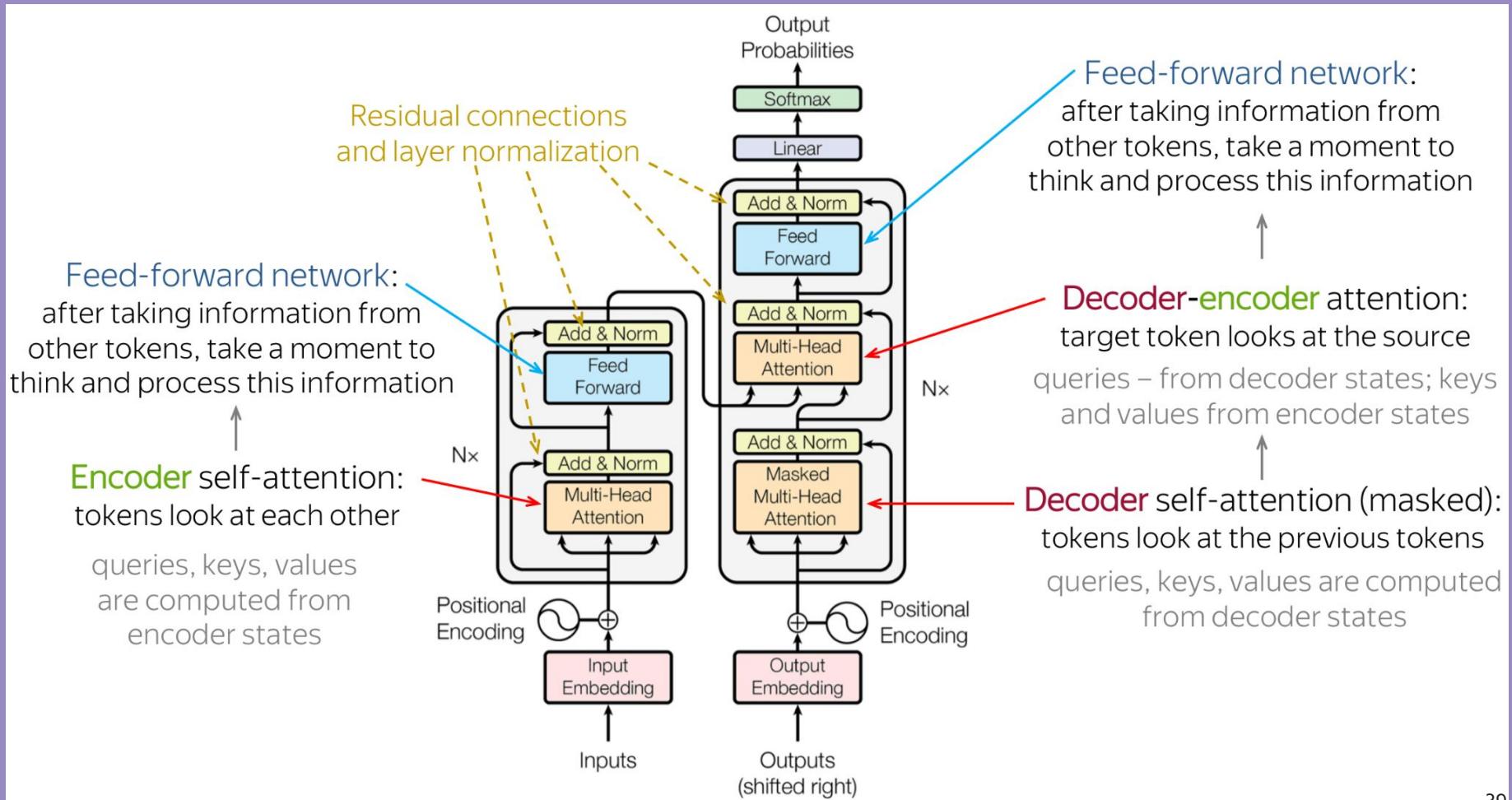
Encoder

Decoder

## Recurrent network



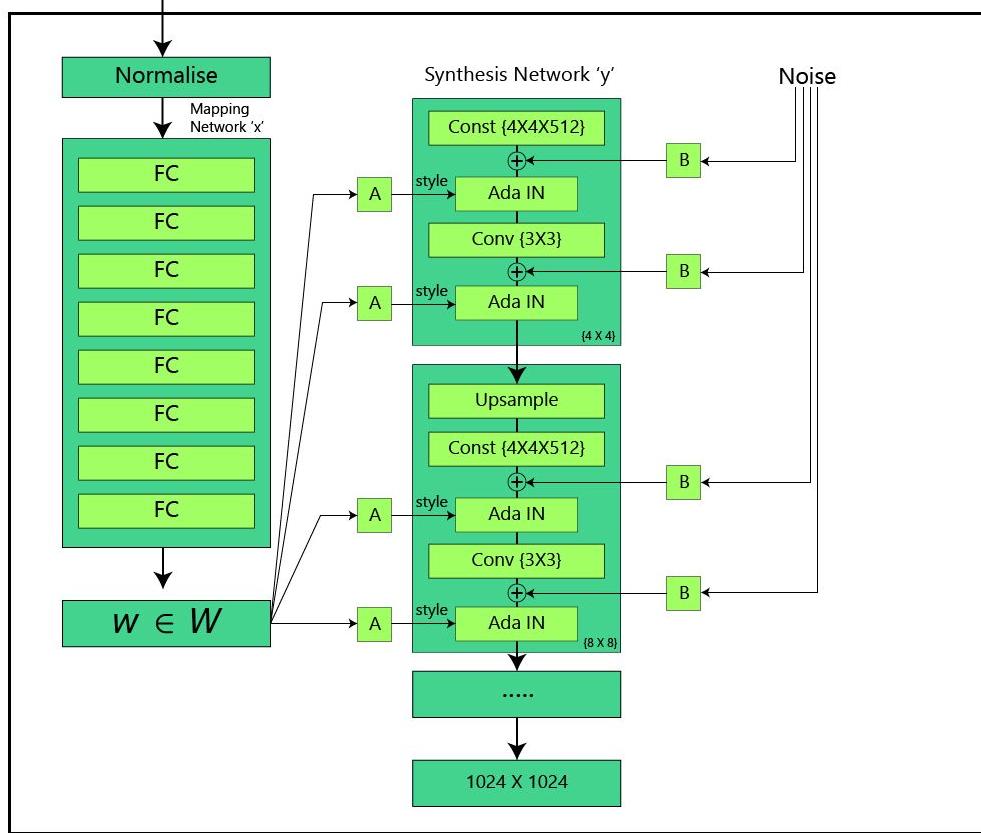
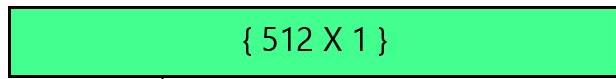
RNNs (Recurrent Neural Networks)



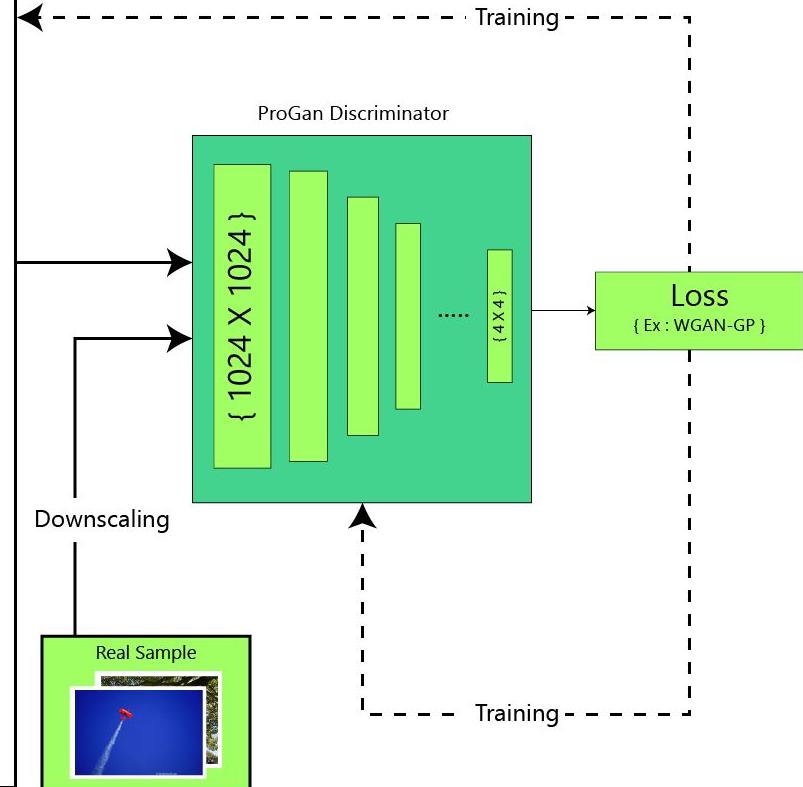
# Explain the key components, layers, or modules of the model

<b>StyleGAN (Style-based Generative Adversarial Networks)</b>	<b>Word Embeddings</b>	<b>Reinforcement Learning</b>
<p>StyleGAN separates the control of the "style" of an image from its content, allowing for the generation of diverse and highly customizable images.</p> <p>StyleGAN is often used in creative applications, such as generating artwork or fashion design ideas.</p>	<p>Word embeddings are techniques used to convert words or text into numerical vectors.</p> <p>Methods like Word2Vec, GloVe, or fastText create dense vector representations of words, capturing semantic relationships.</p>	<p>Reinforcement Learning is a machine learning paradigm where an agent learns to make decisions by interacting with an environment. It involves reward-based learning, where the agent seeks to maximize a reward signal over time.</p> <p>In the context of recommendation systems, reinforcement learning can be used to optimize recommendation algorithms based on user feedback and interactions.</p>

## Random Vector (Latent Code)

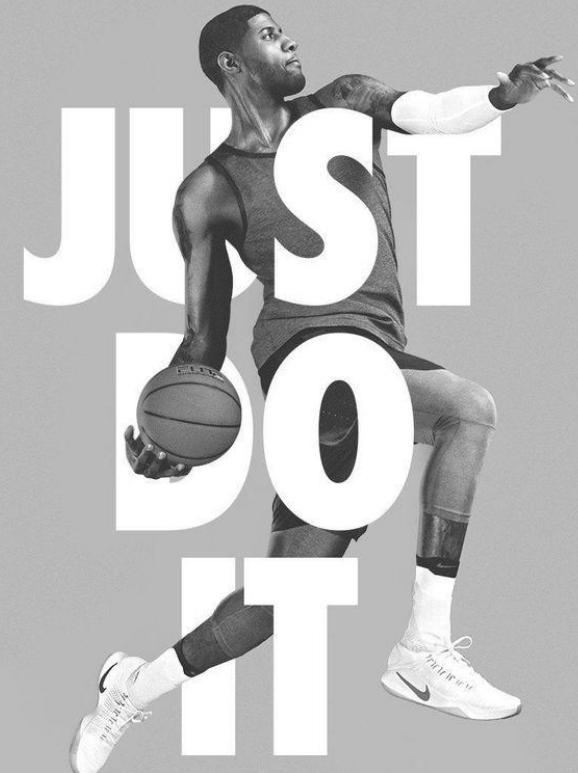


Generator



# 05

## CORE FUNCTIONALITY



# Core functionality

## Data Aggregation

System aggregates data on 1500+ Adidas and 100+ Nike products.

## User Profiling

AI creates user profiles based on preferences and past data.

## Recommendation Engine

AI creates user profiles based on preferences and past data.

## Image Analysis

Employs CNNs for image analysis to recommend appealing outfits.

## Natural Language Processing (NLP)

Applies NLP to understand product descriptions and reviews

## Real-time Learning and Adaptation

System continuously learns and adapts to user preferences and trends.

# Core functionality

## User-Friendly Interface

MVP features an interface for inputting preferences, browsing suggestions, and providing feedback.

Identifies cross-selling opportunities within the same brand or collection.

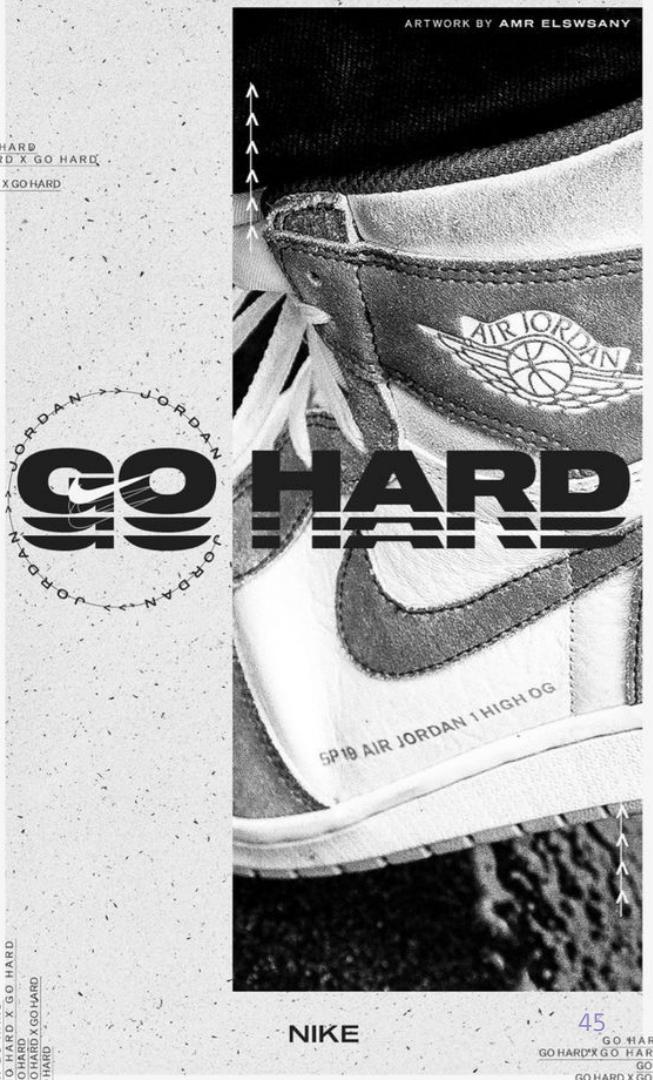
## Cross-Selling Opportunities

## Performance Evaluation and Feedback Loop

Defines key metrics, collects user feedback, and refines algorithms for future suggestions.

# 06

## PERFORMANCE METRICS



# Key metrics used to assess the MVP's success

## Revisit rate

Percentage of users who return to the website after initially engaging with the recommended products or content.

## Conversion Rate

The percentage of people who have turned from visitors into paying customers.

## Customer Acquisition Cost

The expenses of gaining customers over the lifespan of our MVP



## Monthly ARPU (Average Revenue per User)

Divide the amount of total revenue by the number of users of the website in one month to find monthly ARPU.



## Retention Rates

The percentage of active users and retention rates indicate the website usage duration of service. Retention metrics can help to determine the value we are providing with the current MVP and help to improve the services.

# Key metrics used to assess the MVP's success



User Ratings and Customer Satisfaction Score

Performance of your MVP



Safety



Reliability

Quality of customer experience



The amount of support users get

# Key metrics used to assess the MVP's success



## Return On Investment (ROI)

### Revenue Generation



The most general idea of value created by an MVP is the revenue it generates

It's sometimes about something other than revenue. New subscribers gained can also be converted into paying customers.



### Subscribers Gained Through MVP

### Average Order Size



This metric can help you figure out the part of your product generating the most revenue and help you act based on the information.

# Explain how the MVP's performance will be measured and evaluated.



## Acquisition rate

Track the number of times that users visit (in 1 month) using cookies.



## Conversion Rate

Calculate the number of users who have paid for at least 1 product divided by the number of users accessing the website



## User Ratings & Customer Satisfaction Score

After 72 hours, users receive a prompt to rate their experience with stars and comments. After that, MVP gathers this data to retrain the model.



## Monthly ARPU (Average Revenue per User)

Calculate the total revenue and divide by the number of users who access the website at least 1-time using cookies and database



## Retention Rates

Calculate the number of users who access to the website at least 1 time

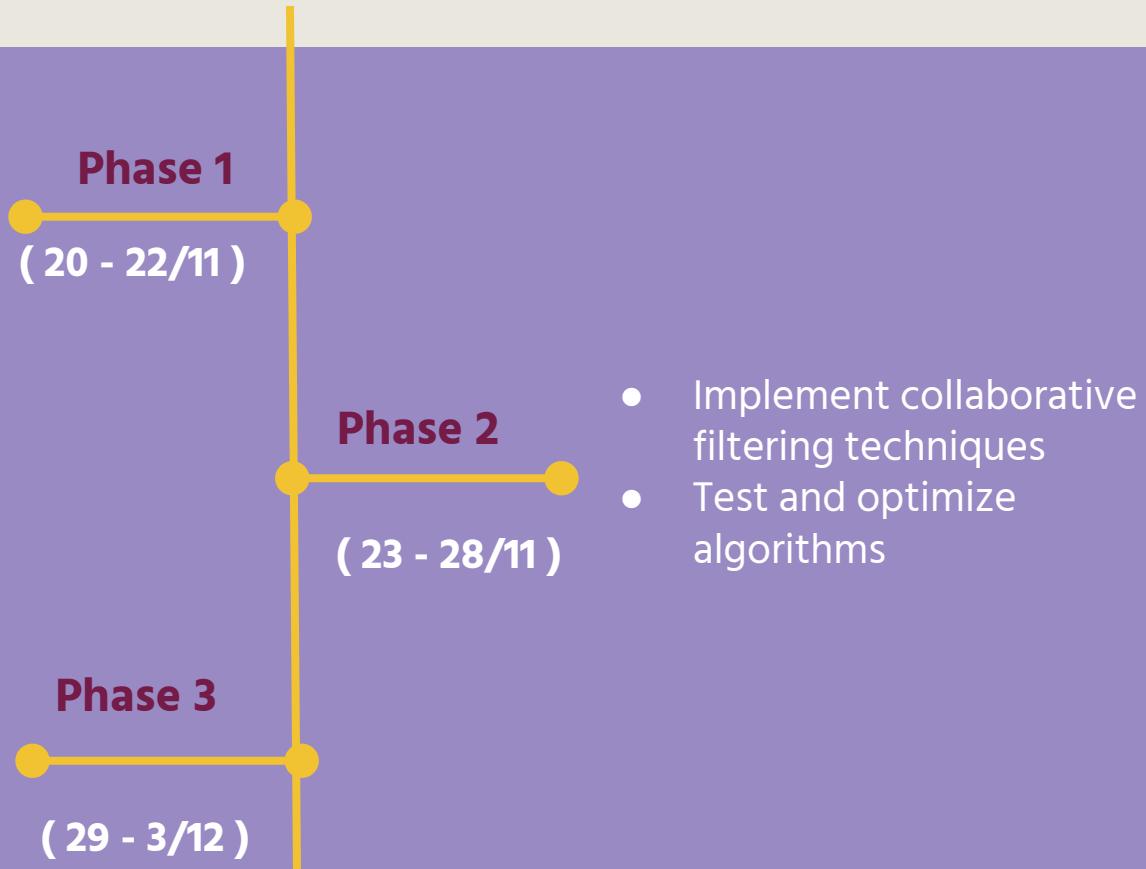


## Products that have the most revenue

Collect the top 10 IDs of products that have the highest total revenue from the database.

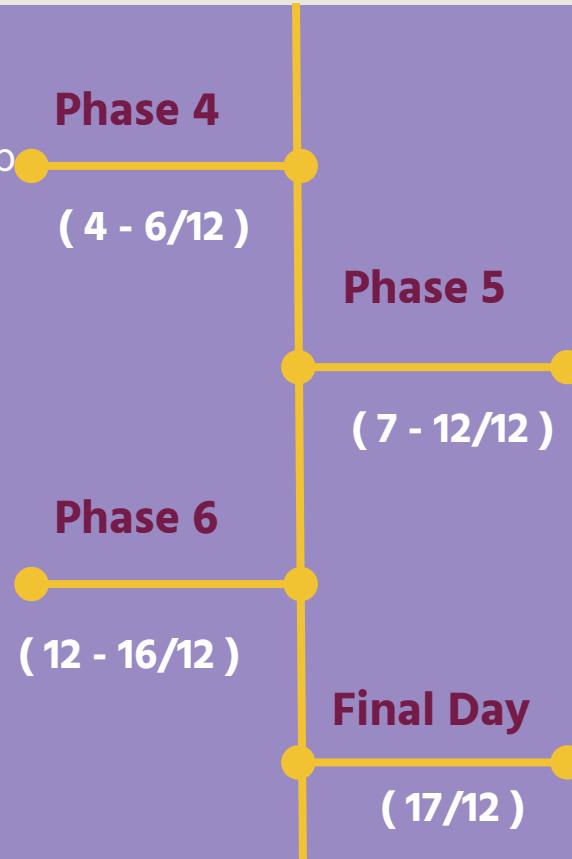
# O7 - TIMELINE & ROADMAP

- Collect and Preprocess data
  - Clean and format data
- 
- Develop and train CCNs
  - Implement NLP to analyze



# O7 - TIMELINE & ROADMAP

- Design a friendly interface
- Develop the interface in web or mobile
- Collect user feedback
- Iterate on the design and functionality based on feedback



- Integrate all components of MVP
- Testing the MVP
- Launch the MVP to the public



# 08

## USER INTERFACE & INTERACTION

# WEBSITE LAYOUT

**Homepage:** Showcasing various products and promotions. It includes sections for trending items, recommended products based on browsing history, and special deals.

**Navigation Bar:** Located at the top of the interface contains a navigation bar with categories such as Home, Explore, Search, Cart, and User Accounts.

**Search Bar:** Located on the navigation bar.

**Product Listings Page:** When searching or browsing for products, the UI presents items in a grid, displaying product images, prices, ratings, and brief descriptions. Filters and sorting options help users refine their search results.

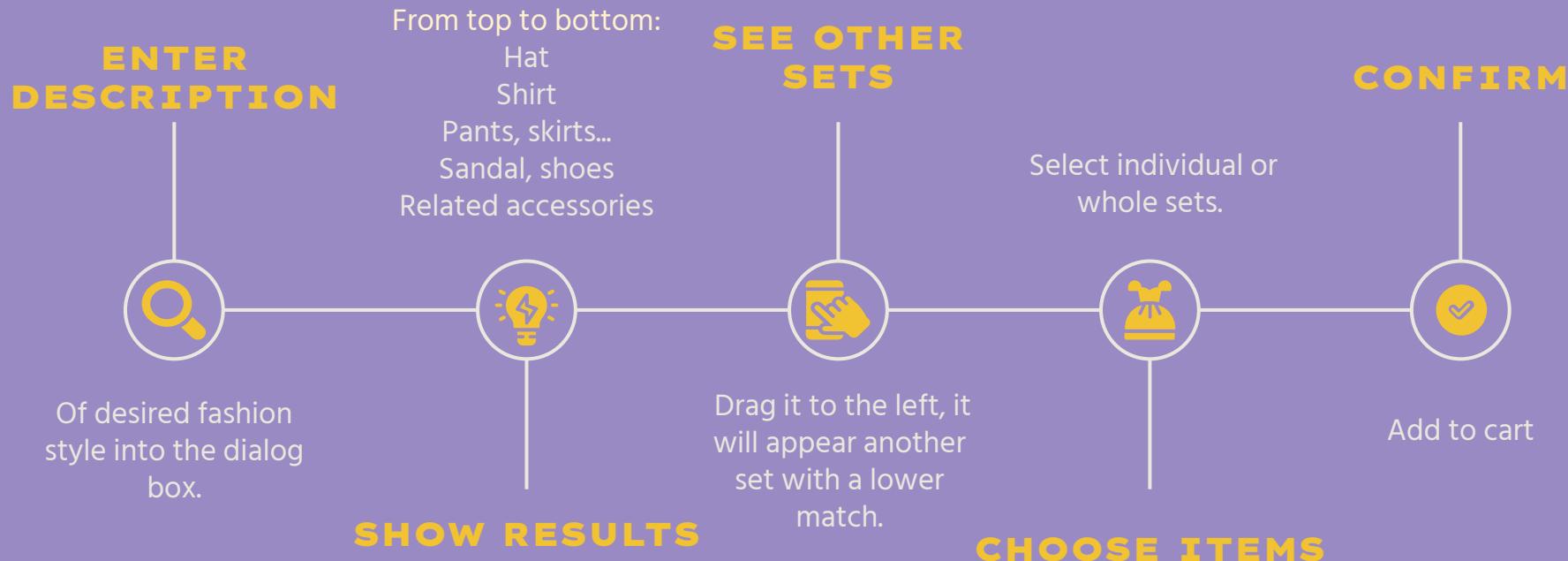
**Product Pages:** When clicking on a product, customers will go to a detailed page with larger images, comprehensive descriptions, pricing, seller info, customer reviews, and related products. Customers can also select size, color, and quantity, and add items to their cart.

**Cart and Checkout:** Summarizes the selected items, allowing users to review their choices before proceeding to checkout. Payment options, delivery addresses, and order summaries are presented clearly during the checkout process.

**User Account:** Manage their profile, track orders, view purchase history, save favorite items, manage addresses, payment methods, and access customer support.

**Feedback and Ratings:** Helping other buyers make informed decisions about products and sellers.

# How users interact with the AI-powered features



# 09

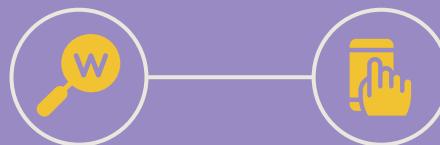
## LIMITATIONS & FUTURE ENHANCEMENTS



# Acknowledge any limitations of the MVP

## Limited Dataset Size

While diverse, the dataset size may still be limited in capturing the full range of user preferences and fashion styles. A larger dataset could offer more comprehensive insights.



## Brand-Specific Focus

The MVP focuses specifically on Nike and Adidas products. While this allows for a targeted approach, it may limit the generalizability of the recommendation system to users interested in other brands.



## Cold Start Challenge

The system may face challenges in providing accurate recommendations for new users or newly introduced products where historical data is scarce, contributing to the "cold start" problem.

## Dependency on Historical Data

The recommendation system heavily relies on historical user interactions. This dependence may result in less accurate recommendations, particularly for users with limited or sporadic interaction history.

## Limited Context Awareness

The MVP may have limitations in understanding the specific context in which users intend to wear the recommended outfits (e.g., occasions, seasons), potentially leading to less contextually relevant suggestions.



## Interpretability Challenges

Deep learning models, if employed, might lack interpretability, making it challenging to explain the reasoning behind specific recommendations. This could impact user trust and acceptance.

## User Engagement Dependency

The effectiveness of the MVP is contingent on active user engagement and feedback. If users do not actively provide feedback, the system may face challenges in refining its recommendations based on evolving preferences.

## Limited Cross-Brand Recommendations

The system may struggle to provide diverse recommendations for users interested in products from multiple brands outside of Nike and Adidas.



## Potential Bias in Data

If the dataset is not carefully curated, it may contain biases that could influence recommendations. For instance, if certain demographics are overrepresented, the system may not equally cater to all user groups.

## Scalability Considerations

The MVP's architecture may not be optimized for handling a significantly larger user base or a rapidly expanding product catalog. Scalability considerations may become crucial as the user and product volumes increase.

=> It's important to view these limitations as opportunities for future refinement and improvement. Continuous iteration based on user feedback and the identification of areas for enhancement will be key in addressing these constraints over time.

# Discuss potential future enhancements or additional features that could be incorporated



## Virtual Try-On Technology

Implement a virtual try-on feature that allows users to visualize how recommended outfits would look on them. This can enhance the online shopping experience and increase user confidence in purchasing.

## **Style Preferences Quiz**

Introduce a style preferences quiz during onboarding to gather more explicit information about users' fashion preferences, occasions, and styles. This can help in overcoming the cold start problem and providing more accurate recommendations from the start.

Enhance the system to dynamically adjust recommendations based on seasonal trends, weather conditions, and regional climate, ensuring that suggested outfits are contextually relevant and weather-appropriate.

## **Dynamic Seasonal Recommendations**



## User-Generated Content Integration

Allow users to upload images of their own outfits or fashion inspirations. The system can then analyze these images to better understand users' personal styles and incorporate this information into recommendations.

Implement social sharing features, enabling users to share their favorite outfits on social media platforms. Additionally, introduce collaborative features where users can curate and share outfit collections with friends.

## Social Sharing and Collaboration





Expand the recommendation system to include a broader range of fashion brands. This can cater to users with diverse brand preferences and provide a more comprehensive fashion shopping experience.

## **Multi-Brand Recommendations**



Extend personalization to accessories, footwear, and other fashion-related items. Provide holistic outfit suggestions that consider a complete ensemble, including matching accessories.

## **Personalization Beyond Clothing**

## Integration with Augmented Reality (AR)

Explore integration with AR technology for a more immersive experience. Users could use their smartphones to virtually try on outfits in real-time through AR applications.



## Smart Wardrobe Management



Introduce a feature that allows users to digitally organize and manage their virtual wardrobe. Users can keep track of their owned items, receive suggestions for complementary pieces, and plan outfits in advance.

## **Multi-Language Support**

Incorporate multi-language support to make the platform accessible to users worldwide. This can involve translating product information, user interfaces, and recommendations into different languages.

## **Gamification Elements**

Introduce gamification elements such as challenges, rewards, or loyalty programs to encourage user engagement. This can make the platform more interactive and enjoyable for users.

## **Ethical and Sustainable Fashion Recommendations**

Include a feature that highlights and recommends ethically and sustainably produced fashion items, aligning with the growing interest in eco-friendly and socially responsible choices.

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# CONCLUSION



# The key points & reiterate the value proposition of the MVP

The MVP for a fashion recommendation system, focused on Nike and Adidas, offers a user-friendly platform leveraging AI techniques like collaborative filtering and image analysis. It tailors personalized outfit suggestions, adapts in real-time, and encourages user engagement. The brand-specific approach identifies cross-selling opportunities and defines metrics for continuous improvement. Acknowledging limitations, it outlines paths for future enhancements, providing a comprehensive and evolving fashion experience.



# The potential impact and benefits of the AI-powered fashion recommendation system

## Enhanced User Experience

Users receive personalized outfit suggestions aligned with their unique preferences, leading to a more satisfying and engaging shopping experience.

## Increased User Engagement

The real-time learning and adaptation mechanisms encourage active user participation, fostering a dynamic and interactive platform.

## Brand Promotion and Cross-Selling

The system identifies cross-selling opportunities, promoting Nike and Adidas products within outfit recommendations, contributing to increased brand visibility and sales.

# The potential impact and benefits of the AI-powered fashion recommendation system

## Improved Customer Satisfaction

Personalized recommendations and a user-friendly interface contribute to heightened customer satisfaction, potentially leading to increased loyalty and retention.

## Efficient Shopping Decisions

Users benefit from efficient decision-making by receiving well-coordinated outfit suggestions, reducing the time and effort required to curate their wardrobe.

## Adaptation to Fashion Trends

The system's real-time updates ensure that users stay current with evolving fashion trends, promoting a sense of style relevance and trend awareness.

# RESOURCES

Below are excerpts of all the reference documents and websites that our group used to support the group's ideation and completion of the solution:

- Building an AI-Powered Outfit Recommendation System With Dataiku
- Fashion Recommendation System - Authors: Aneesh K, P V Rohith Kumar, Sai Uday Nagula, Archana Nagelli
- Classifying simple color matching outfits with the help of Fuzzy Logic

- StyleGAN – Style Generative Adversarial Networks
- Understanding Convolutional Neural Network (CNN): A Complete Guide
- Example of Integration with Augmented Reality (AR)

THANKS  
YOU