




## TRENDFLIX

AI-based fashion recommendations inspired by  
content watched on the platform





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**THEME:** FireTV Personalized Content Advisor



# Problem Statement

- Extending the idea of the selected theme, instead of content recommendation, we aimed to achieve fashion recommendations based on the content watched on the platform.
- While enjoying your favorite content on Amazon Prime, have you ever been inspired by your **favorite superstar's fashion choices** and find it **tedious to search** on various websites for that **perfect matching product**?
- As of now, we will be focusing on the clothing material.
- ***Personalizing the fashion recommendations of customers based on the content they consume on the Amazon TV.***

# Prototype/Design



Nykaa Fashion

Akhilam Womens Satin  
Silk Magenta Woven...

[Product Link](#)



Meesho

Kanjivaran Silk Saree  
With Unstitched Blouse

[Product Link](#)



# Solution

- **Enhanced AI-Powered Discovery:** Our new Amazon Prime Video feature employs **advanced AI technology** to detect wearables within **video frames**, revolutionizing fashion discovery.
- **Sorted by Similarity:** Results are intelligently organized by **closely matching** the original product, enhancing the user's ability to find the perfect fashion item.
- **Direct Amazon Links:** The **AI model** will give the links of the matching Amazon **products** for effortless exploration.
- **Metrics:** For segmentation: **IOU scores**; For object detection: **IOU and mAP scores** and the precision, recall, and **F1 scores** of the training

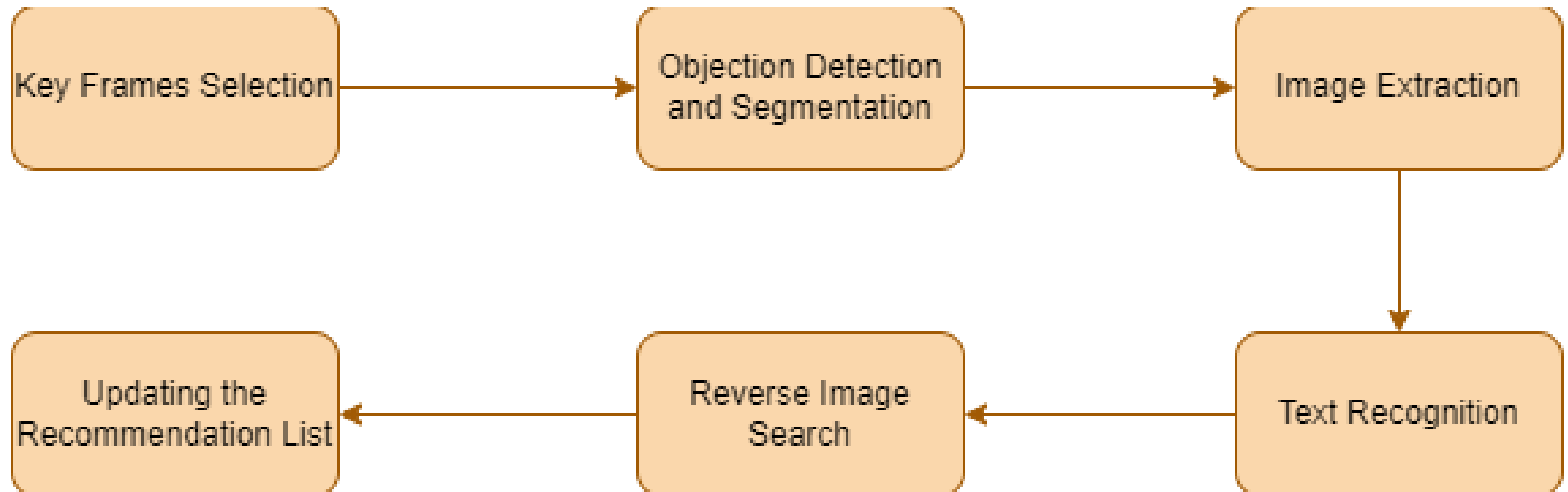


# Solution (continued...)

- **Novelty:-** Our solution eliminates the need for viewers to manually search for items worn by actors, streamlining the fashion discovery process within Amazon Prime Video. Users can effortlessly identify and explore these wearables, enhancing their overall viewing experience.
- **Assumptions/Constraints:-**
  - Actors should occupy **a minimum frame size** to be detected by the AI model.
  - Matching detected wearables are **present on Amazon**.
- **Technologies planned to use-**
  - React for Frontend, Node.js for Backend, MongoDB for the Database, and Python for the ML model.
  - Using these together harnesses a MERN stack with robust front-end interactivity, efficient back-end performance, flexible NoSQL data handling, and powerful machine learning capabilities.
- **Implementation:-**
  - It can be easily implemented by integrating our ML model with Prime videos.
  - It is highly scalable as it applies to all the movies on Amazon Prime.



# Methodology



## Flow Chart



# Methodology

- 1. Frame Extraction:** First, we **extract frames** from the video that contain the scene where the famous personality is wearing the desired fashion item. We will use scripting libraries like OpenCV in Python for this purpose.
- 2. Object Detection:** Object detection, powered by OpenCV (CV2), enables the automatic identification and localization of various objects within the movie frames. This component provides valuable insights into the composition of each frame, making it a versatile tool for analysis and enhancement.
- 3. Face-Blurring:** Face features form a significant part of the image, However, we do not want the face of the celebrity to influence our search results. So, we feed the image into a new ML model that uses CV2 to blur the face.
- 4. Image Extraction:** Once we have detected or segmented the fashion item, crop and save the region of interest (ROI) as a separate image.





# Methodology

**5. Reverse Image Search:** At this step, we have a filtered image without any background and without any facial features of film stars. The image is now used to search for similar products from our database. The image search component has been implemented using **CLIP** by OpenAI. These four components work in harmony to deliver a comprehensive and versatile solution for processing and optimizing movie frames.

**6. Showing the recommendation list:** We can show the items that we found similar in the recommendation list of the user.



# Societal Impact

- **Empowering Consumers:** The project empowers viewers to easily access and purchase the fashion items they see their favorite film stars wearing, making it convenient to emulate their style.
- **Fashion Accessibility:** It democratizes access to fashion by bridging the gap between on-screen style inspiration and real-world shopping, promoting inclusivity in fashion choices.
- **Supporting Trends:** The feature can influence fashion trends by making it simpler for users to adopt the latest styles sported by celebrities, contributing to the fashion industry's growth.



# Future Scope

- **International Expansion:**
  - **Global Market Reach:** Extend the feature to a global audience and target international markets.
  - **Localization:** Adapt the feature to different languages and regional preferences.
- **Partner Collaborations:**
  - **Brand Partnerships:** Forge strategic partnerships with fashion brands for exclusive promotions, collections, and content related to their products.
  - **Celebrity Collaborations:** Collaborate with celebrities to curate collections or endorse products, enhancing the connection between on-screen fashion and real-world shopping.



# Future Scope (*continued...*)

- **Enhanced Personalization:**

- **AI-driven Recommendations:** Further develop the AI algorithms to provide highly personalized fashion recommendations based on user preferences, watching habits, and shopping history.
- **Virtual Try-On:** Explore the integration of virtual try-on technology, allowing users to virtually try on wearable items before making a purchase decision.

- **User Engagement:**

- **Interactive Content:** Expand the concept of interactive content beyond fashion, potentially branching out into other product categories (e.g., technology, home decor).
- **User-Generated Content:** Allow users to contribute content, such as fashion lookbooks and style guides, creating a community of fashion enthusiasts.



THANKS!

A large, thick orange arrow that starts under the 'T' and ends under the 'S', curving upwards to resemble a smile.