

# Shop The Look

*Snap it. Shop it.*

“ Personalization, AI,  
& Product Discovery ”

*By Whiskey Team*



BUSINESS  
ANALYTICS  
Master of Science



# Contents



**1. BUSINESS CASE**



**2. IMPLEMENTATION**



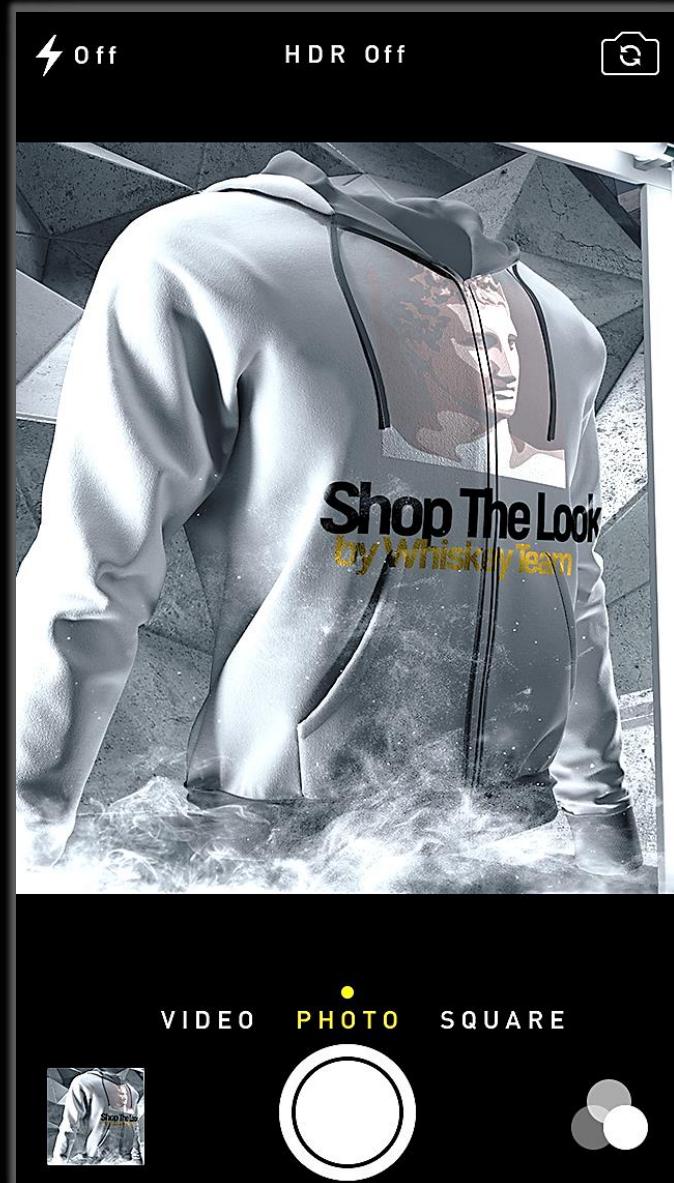
**3. FINAL RESULTS**



# Business Case

section one

“A goal without a plan is just a wish”  
— Antoine de Saint-Exupéry



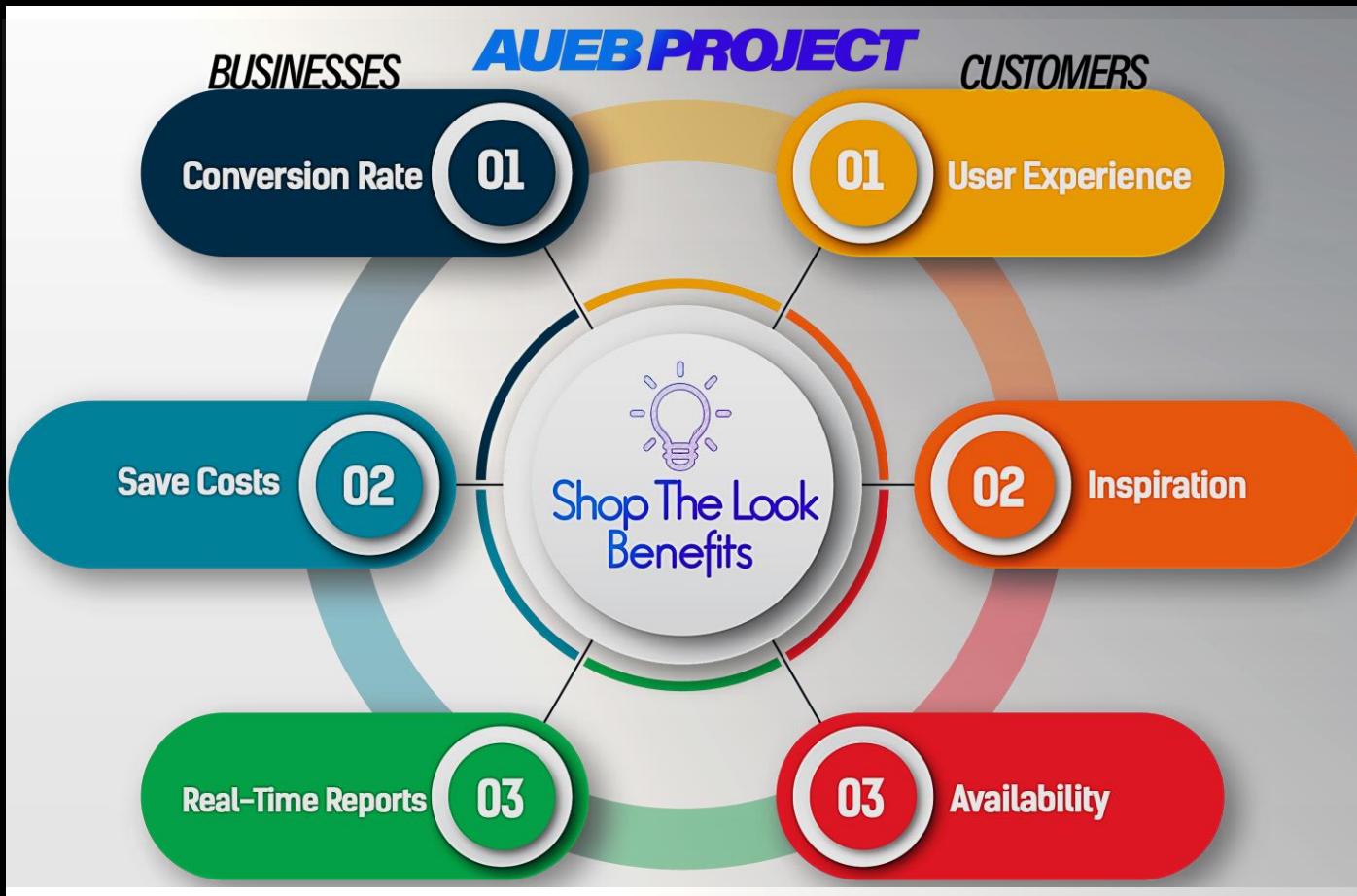
# About us



01



# Why to use Shop The Look



02

+

WHY



# What's our vision

03

+

Vision →

## Our Vision – Shop The Look

- **Search-by-image Solution: the one-click discovery revolution**
- **Create more enjoyable customer journeys & businesses tools**



### TARGET GROUP

Fashion industry:  
• Businesses (B2B)  
• Consumers (B2C)



### PRODUCT

- Responsive Website
- App



### DONE

- Gender Detection
- Object Detection
- Embeddings
- Recommendations



### POTENTIAL

- AR Technology
- Cross-Selling
- Get fashion sizing right
- Price comparison



# Why digital fashion industry

FASHION  
E-SHOPPERS

## Fashion e-commerce, Year in review 2021

Ετήσια Ανασκόπηση της Ελληνικής  
Αγοράς και των τάσεων που θα την  
διαμορφώσουν το 2022.

**1,010 δις. €**

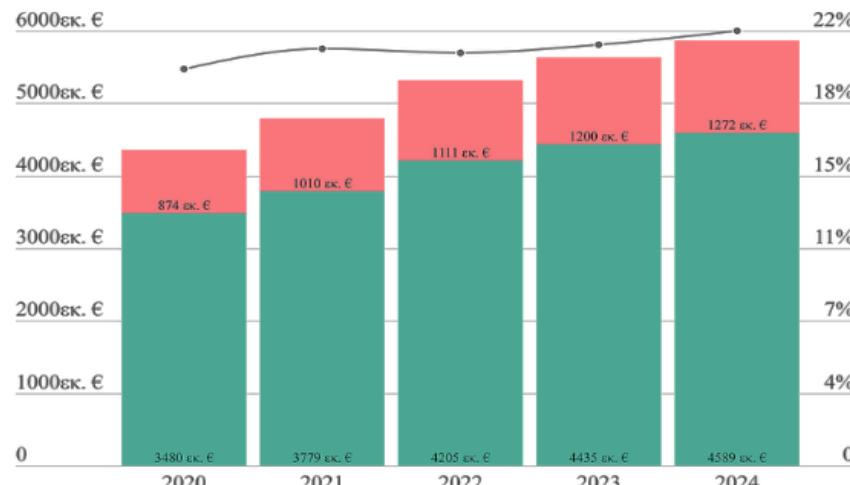
Κύκλος εργασιών  
online μόδας 2021

**10%**

Προβλεπόμενη ανάπτυξη  
ηλεκτρονικού εμπορίου 2022

**1,111 δις. €**

Αναμενόμενος κύκλος  
εργασιών online μόδας 2022



Πηγή: fashion-research.gr - Glami



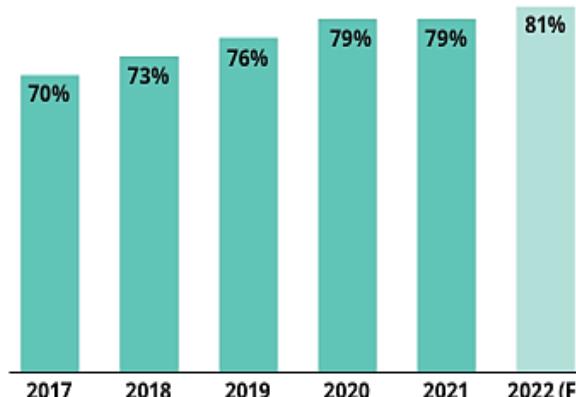
# Why digital fashion industry

FASHION  
E-SHOPPERS

## Greece

### Internet usage

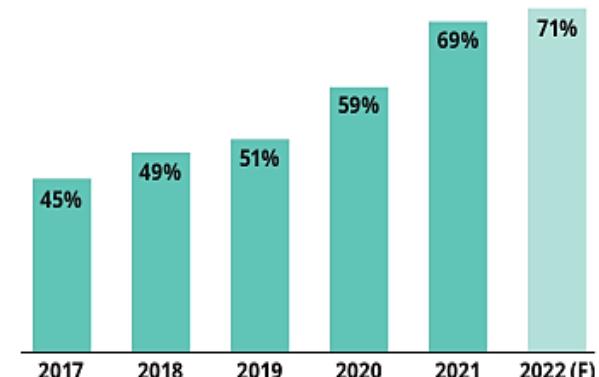
Percentage of the population accessing the internet



SOURCE: EUROSTAT

### E-Shoppers

Percentage of internet users that bought goods or services online



SOURCE: EUROSTAT

# Implementation

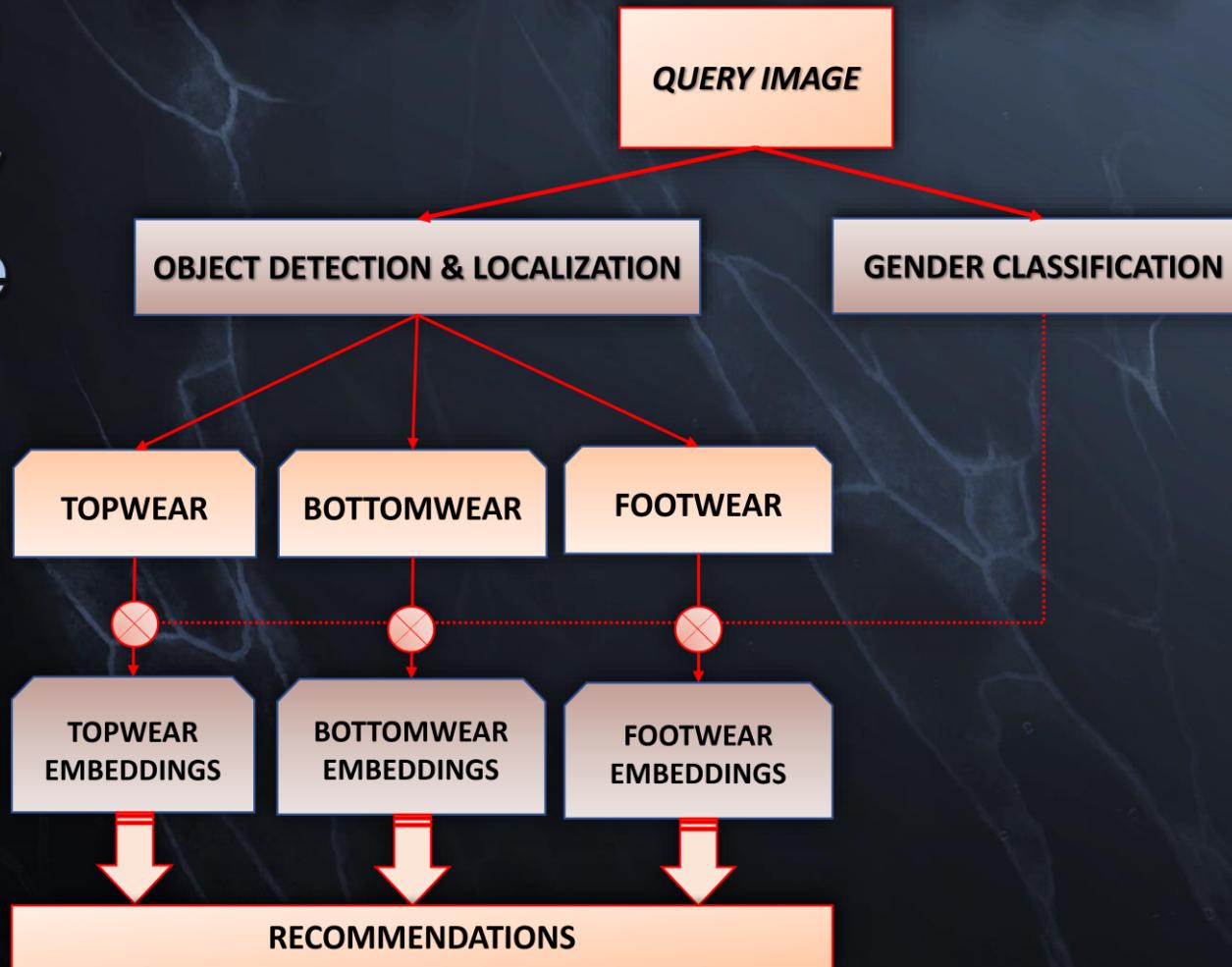
section two

*"Never make a human do a machine's job.  
Never tolerate doing a machine's job. "*



# SHOP THE LOOK

## Our Directory Structure



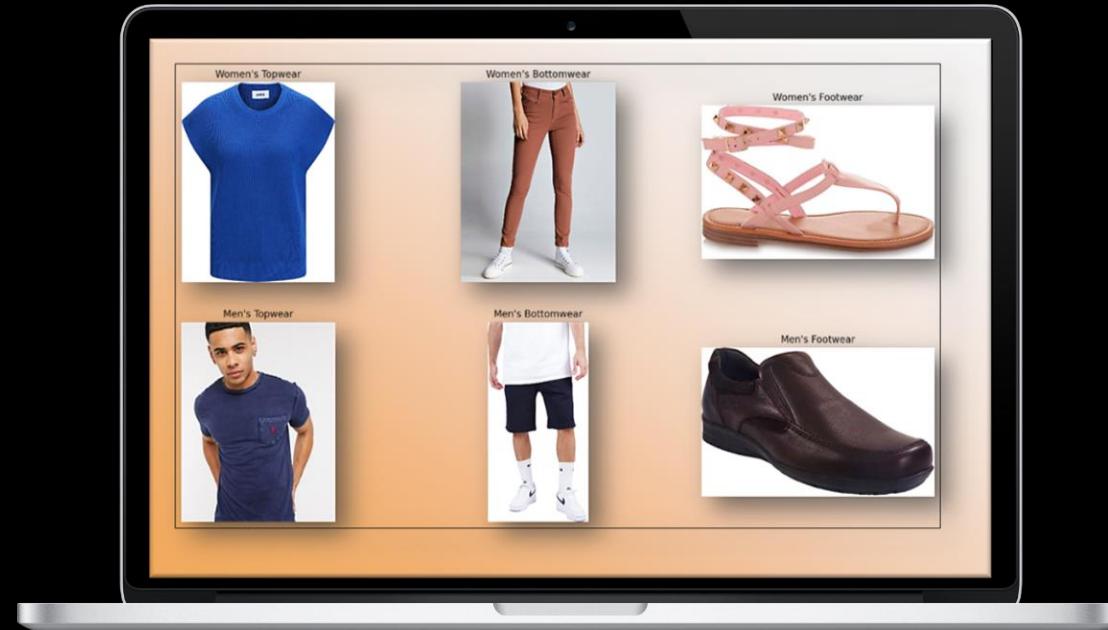


# Recommendations Dataset

9600 Fashion Products

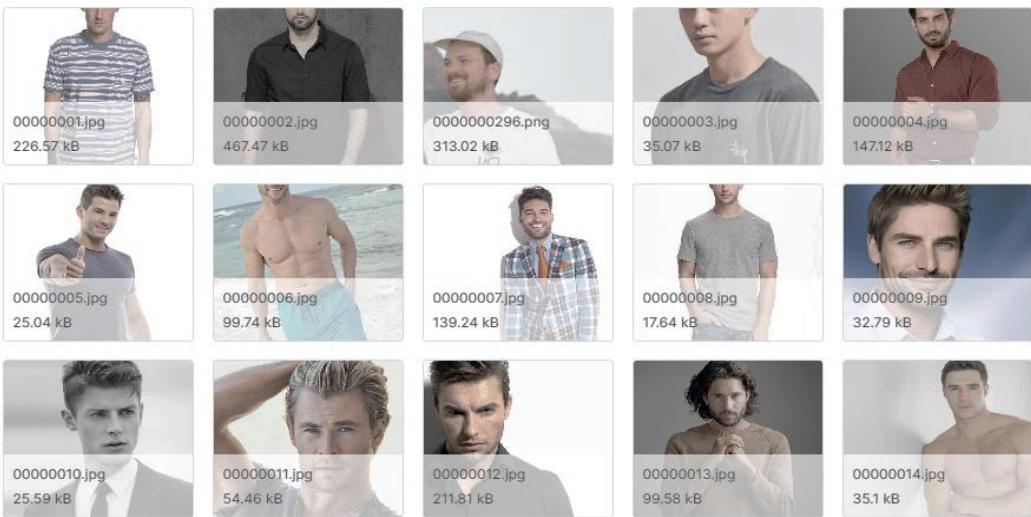
6 Fashion Categories

skroutz  
skroutz  
skroutz

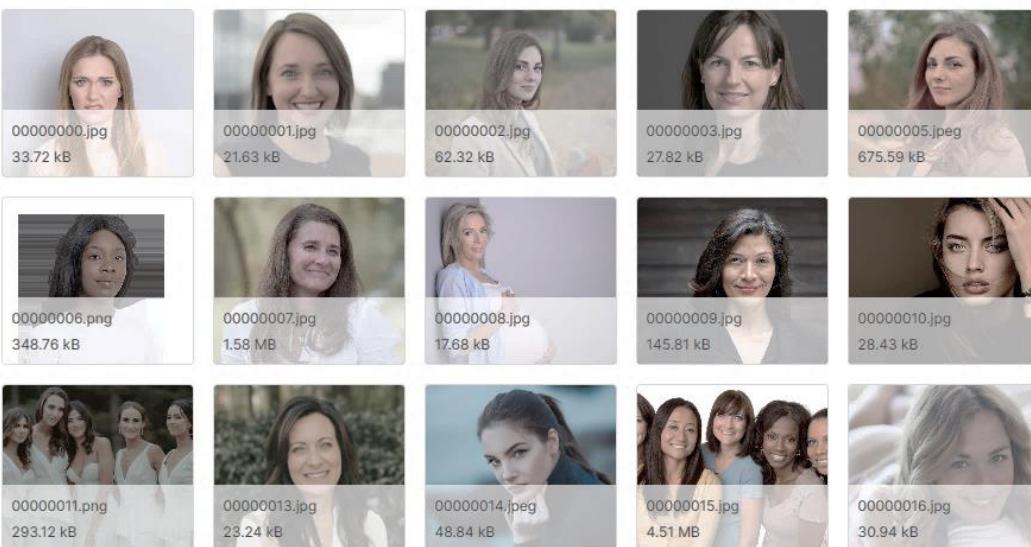




men (1418 files)



women (1912 files)

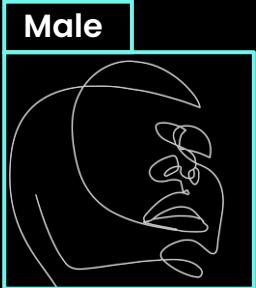


# 1. Gender Classification

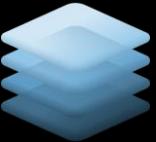
Kaggle Dataset – 3.354 pictures–  
“Men/Women Classification”

1.418 Men's Pictures

1.912 Women's Pictures



# ResNet-50



## 50 Layers Deep

ResNet-50 is a convolutional neural network that is 50 layers deep.



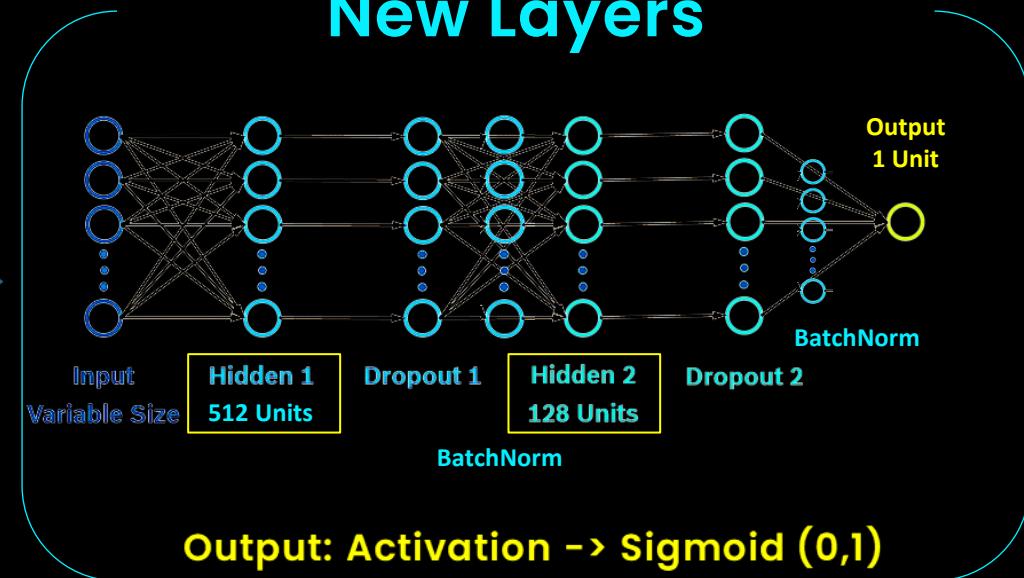
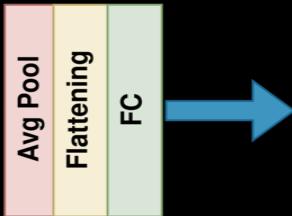
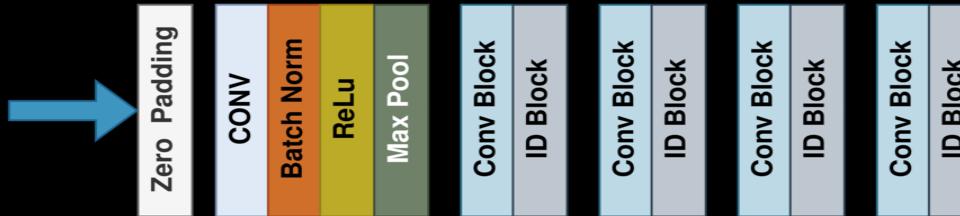
## 224-by-224px

The network has an image input size of 224-by-224.



## ImageNet Database

You can load a pretrained version of the network trained on more than a million images from the ImageNet database.





# Model Metrics

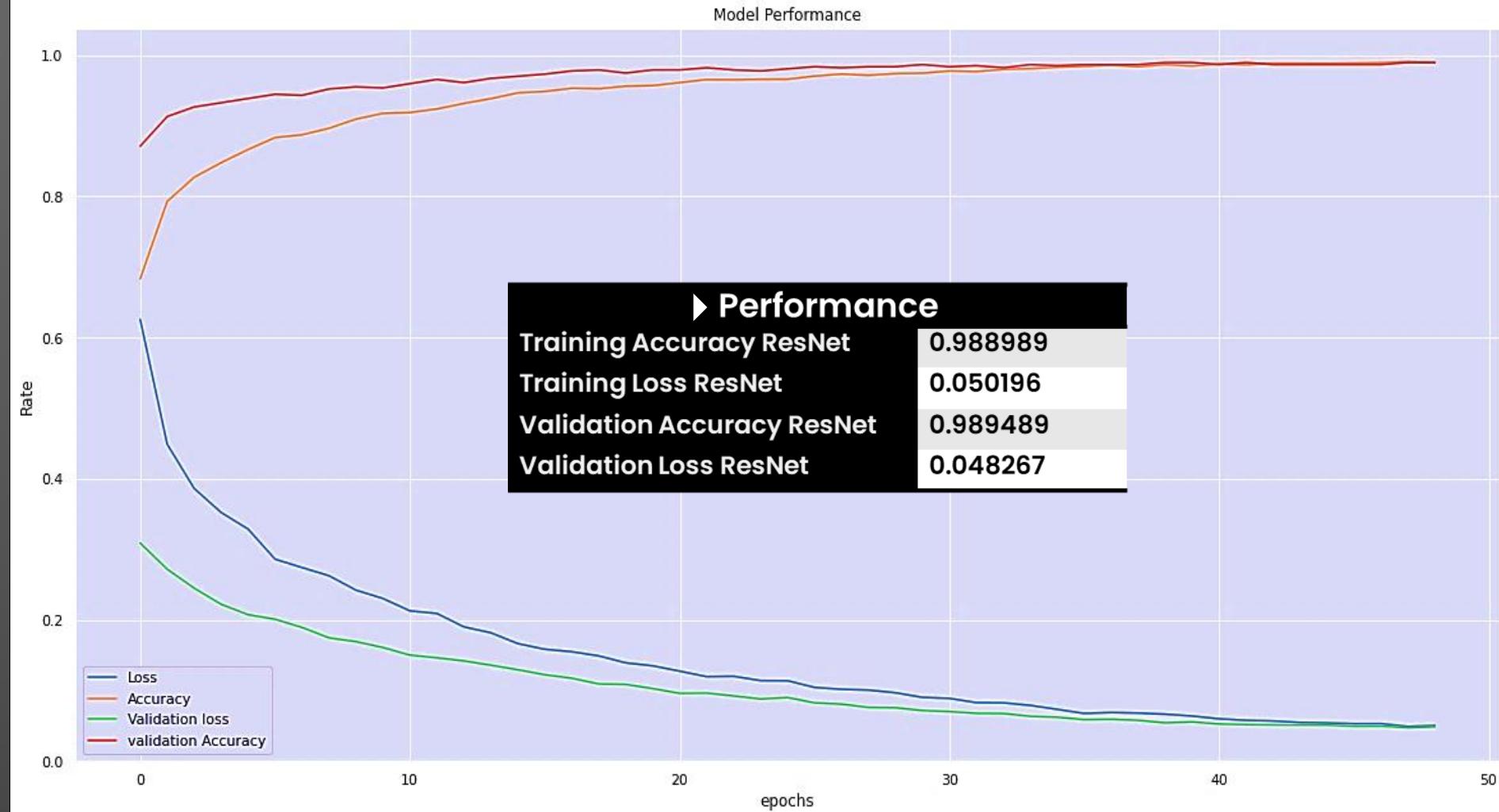
T.Accuracy

V.Accuracy

T.Loss

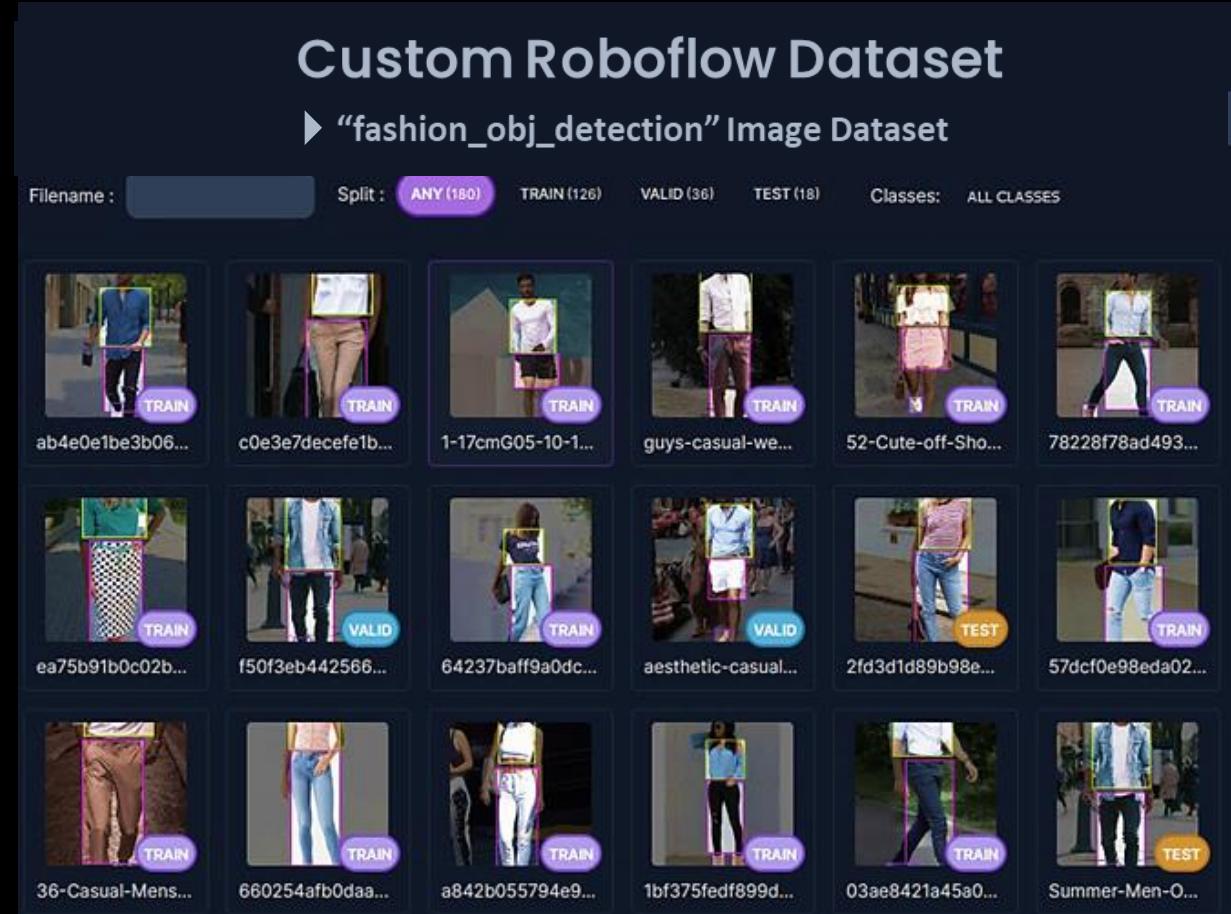
V.Loss

V\*: Validation  
T\*: Training





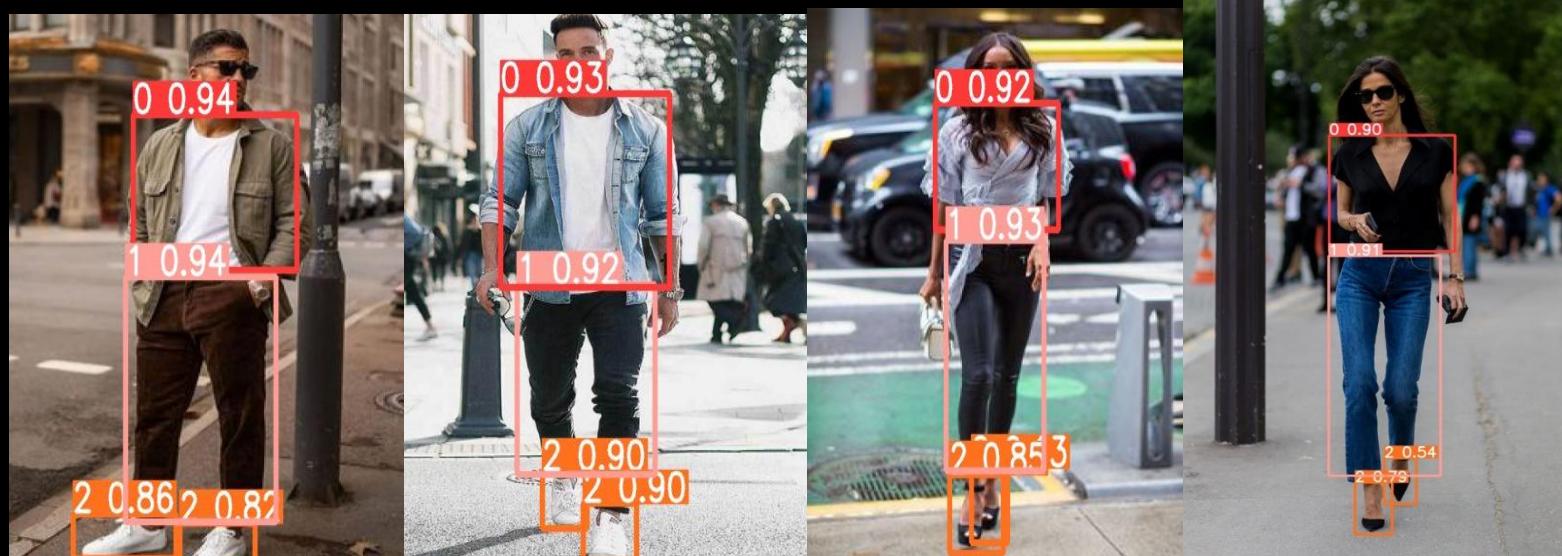
# 2. Yolo Object Detection





# 2. Yolo Object Detection

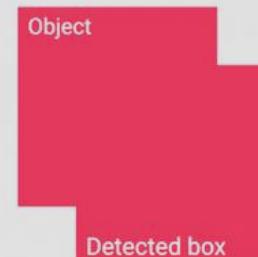
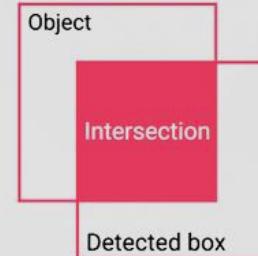
## Version 5



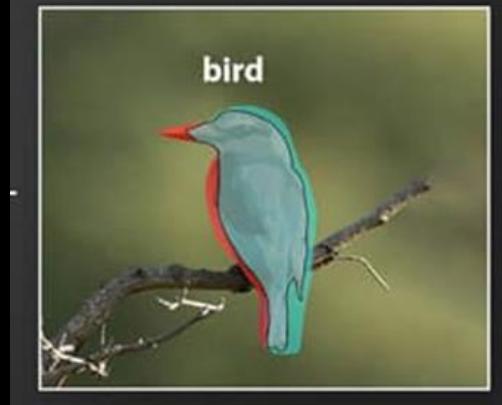
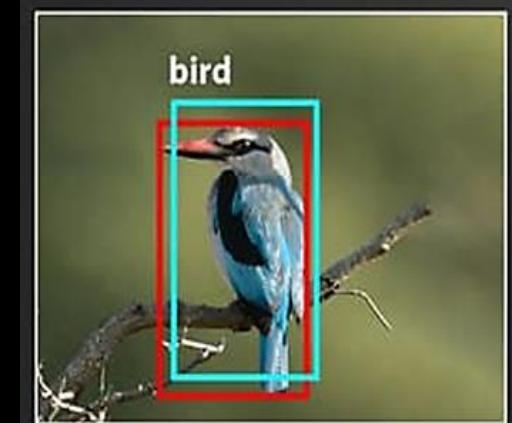
# Model Evaluation

Metric

$$\text{IoU} = \frac{\text{Area of Overlap}}{\text{Area of Union}}$$

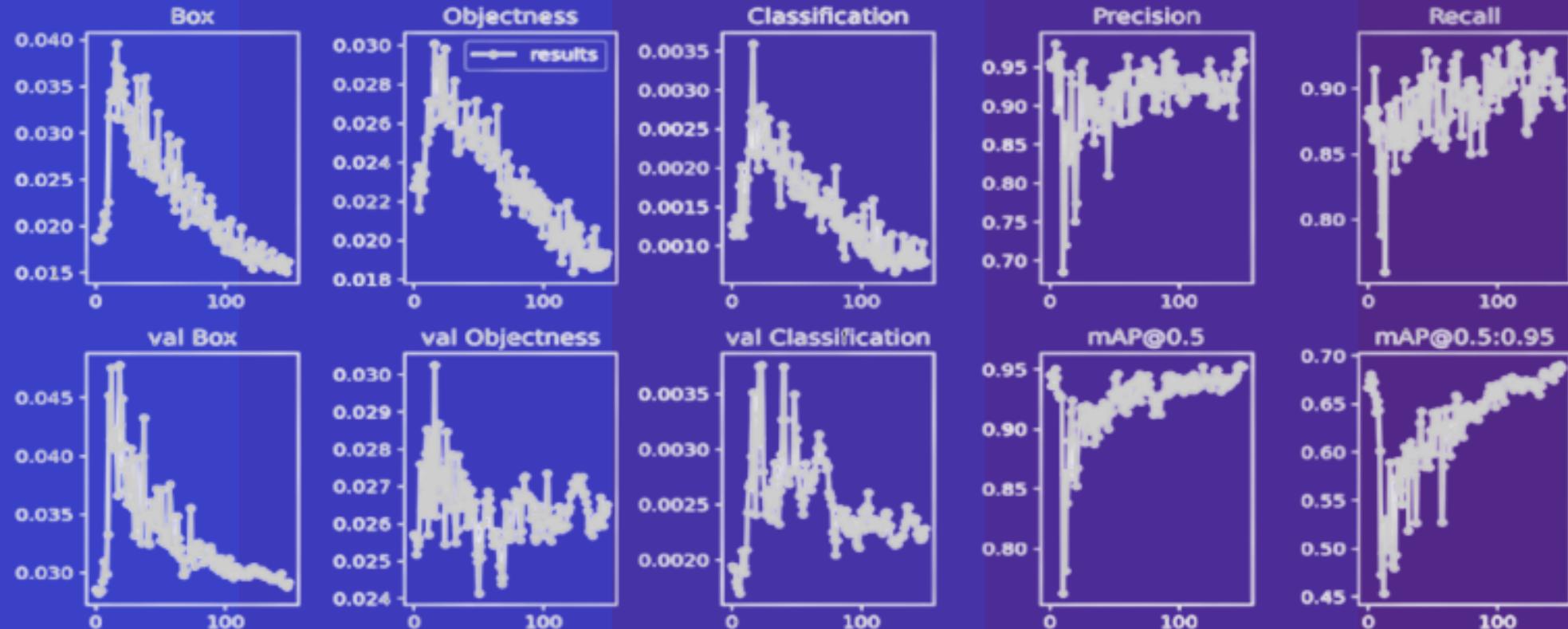


Example



$$\text{Precision} = \frac{\text{TP}}{\text{TP} + \text{FP}} \quad \& \quad \text{Recall} = \frac{\text{TP}}{\text{TP} + \text{FN}}$$

# Model Results

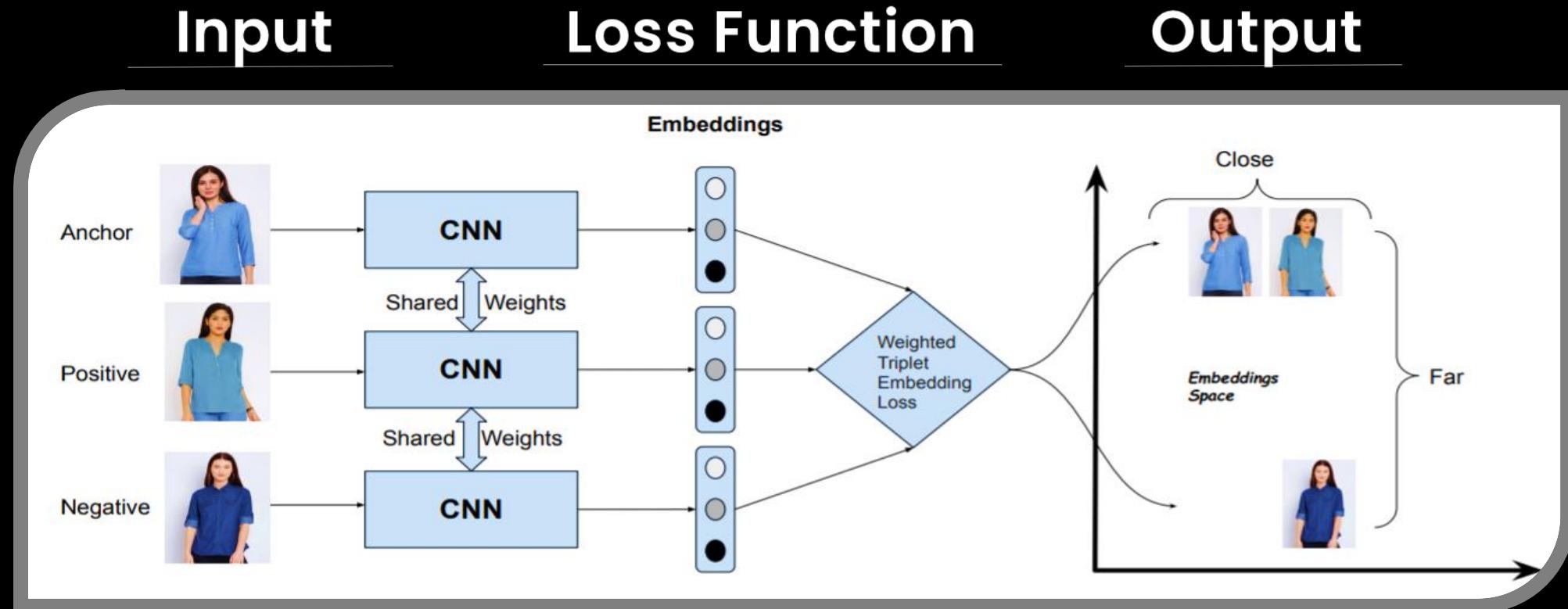


# Model Results



# 3. Embedding Generation

## Siamese Network



# 3. Embedding Generation

Topwear



Anchor



Positive



Negative

Footwear



Anchor



Positive



Negative

Bottomwear



Anchor



Positive



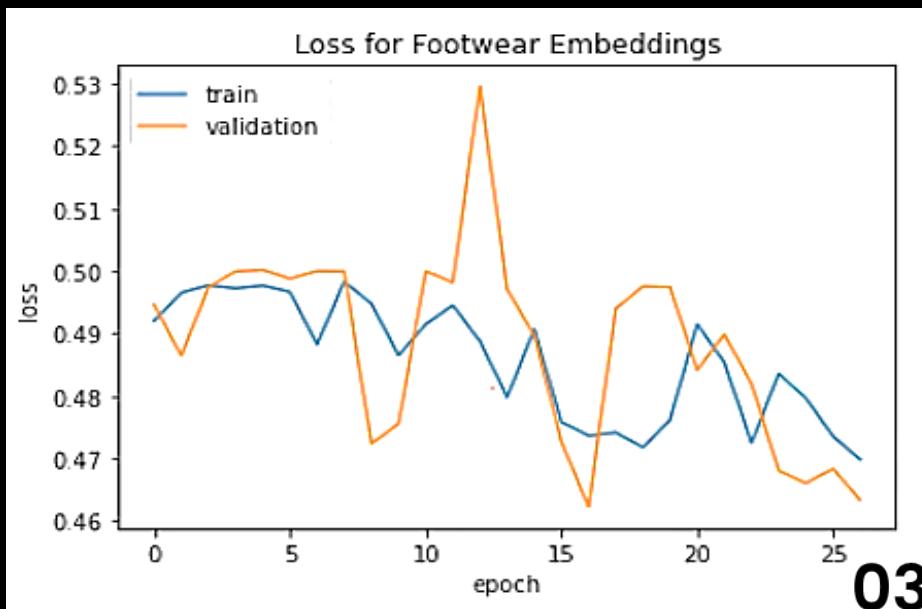
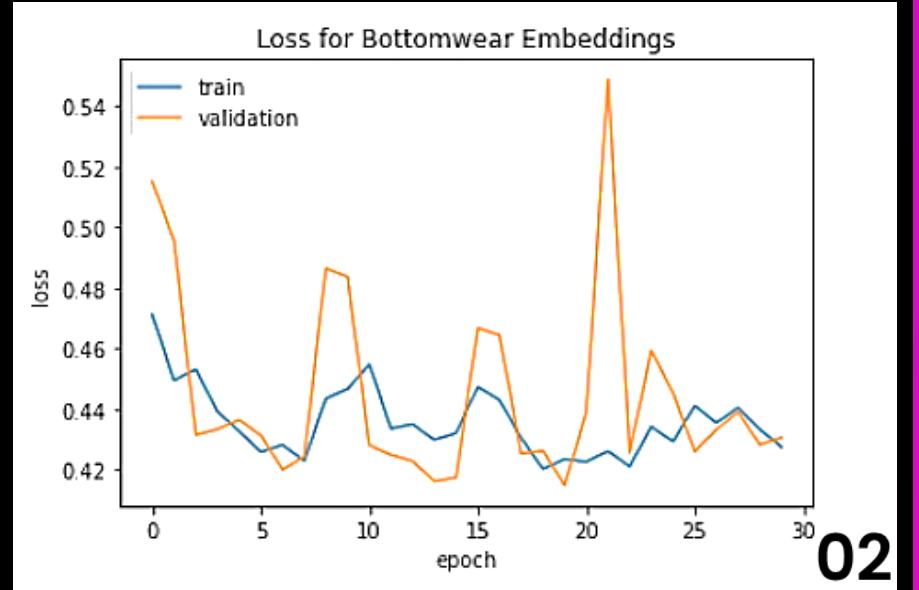
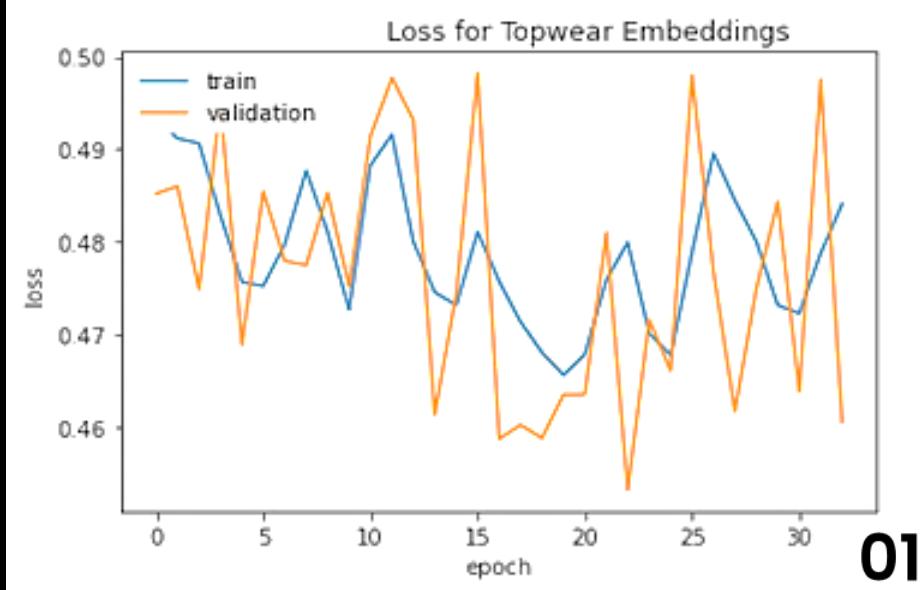
Negative



# Siamese Network Losses

Train

Validation



01 Topwear

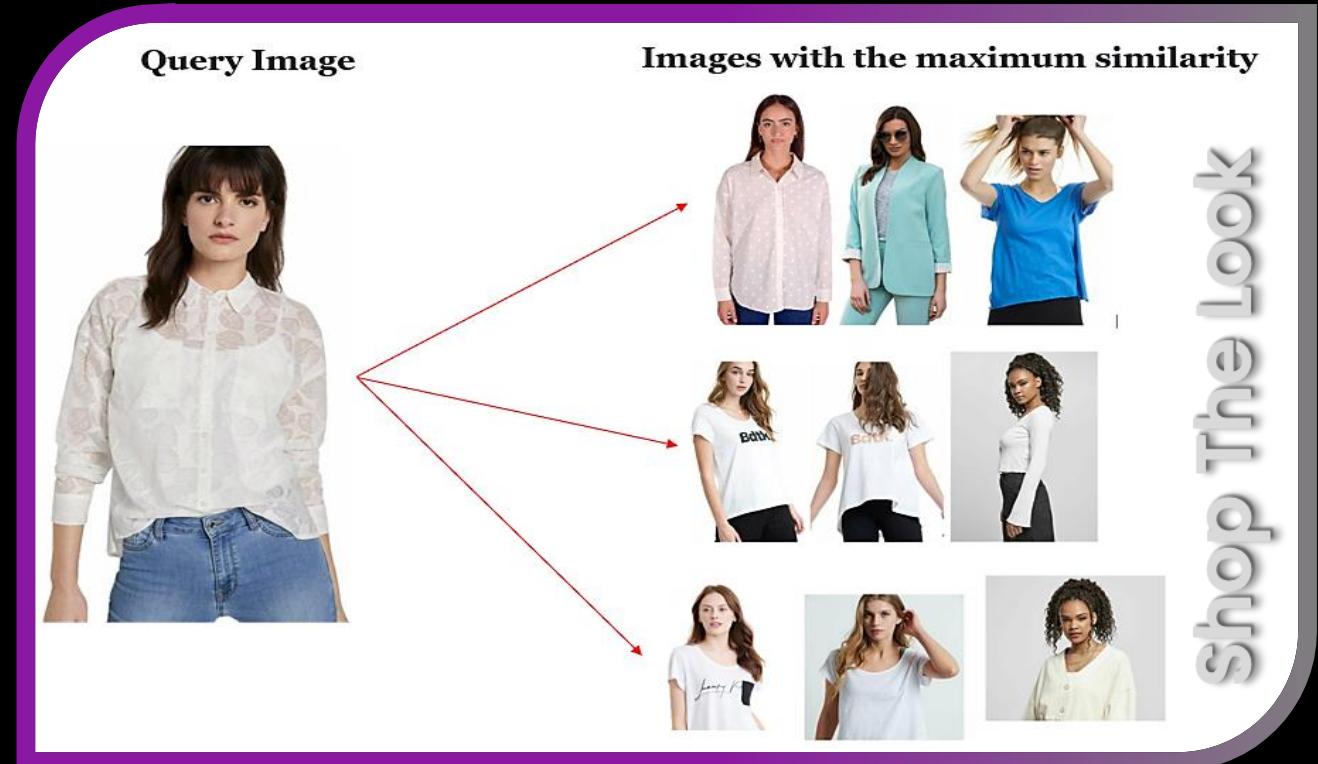
02 Bottomwear

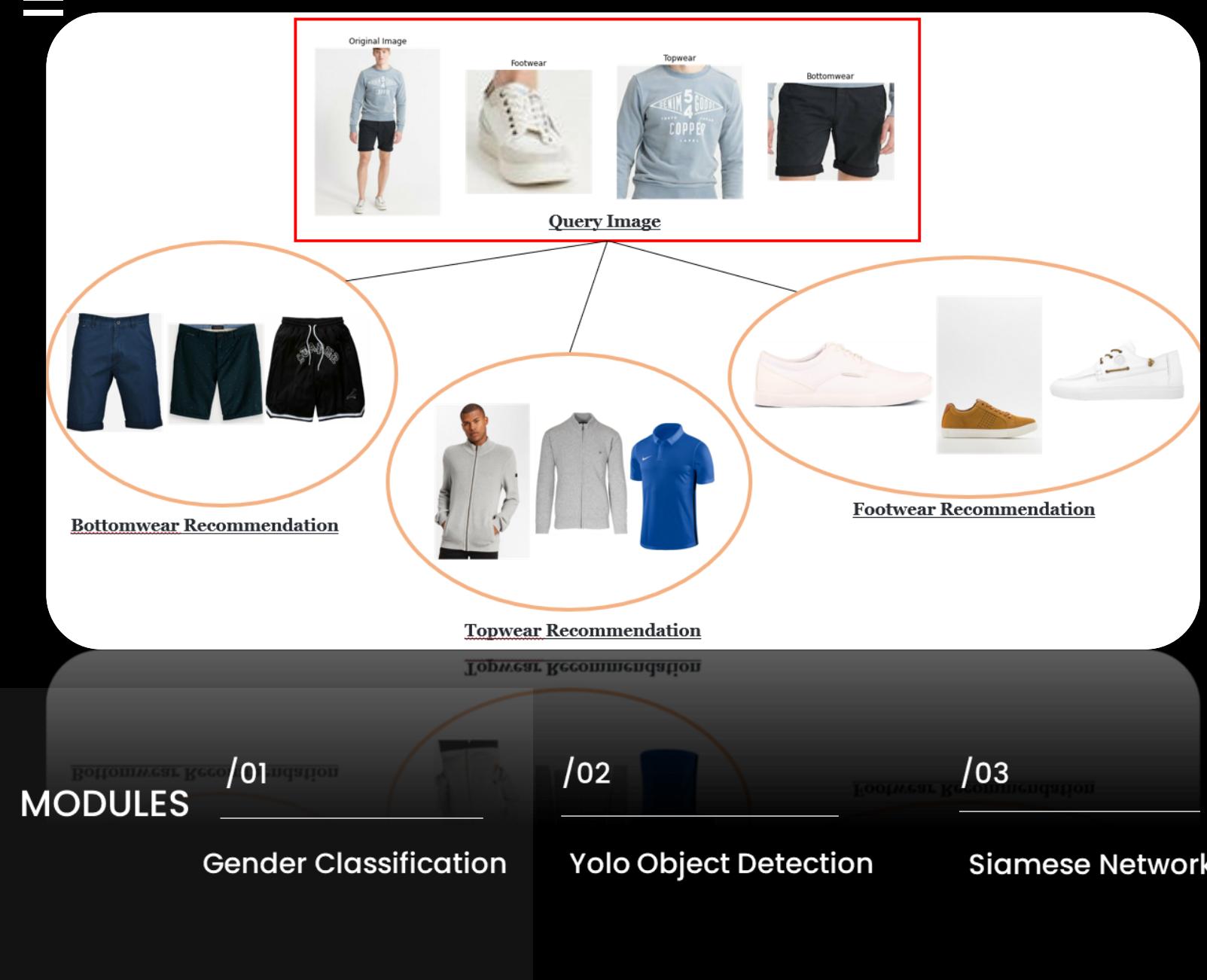
03 Footwear



# 3. Embedding Generation

*Checking*  
*Checking*  
*Checking*  
*Checking*  
***Checking***  
***Similarity***  
*Similarity*  
*Similarity*  
*Similarity*  
*Similarity*







## MODULES

/01

Gender Classification

/02

Yolo Object Detection

/03

Siamese Network

**RECOMMENDATIONS**  
**Topwear**  
**Bottomwear**  
**Footwear**



## MODULES

/01

Gender Classification

/02

Yolo Object Detection

/03

Siamese Network

# Final Pipeline

► ALL MODULES TOGETHER

**RECOMMENDATIONS**  
**Topwear**  
**Bottomwear**  
**Footwear**

# Video Promotion



Thank You

Shop The Look