

AI BOOTCAMP PROJECT2

# 3D VIRTUAL TRY ON

M3D-VTON 논문 기반 3D 가상피팅 구현 프로젝트

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AI 06 강수현

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Reference

통계청 '2021년 11월 온라인 쇼핑동향'

온라인 쇼핑

전년 동월대비 총 거래액 증가율

16.5%

( 17조 5,077억원 )

모바일 쇼핑

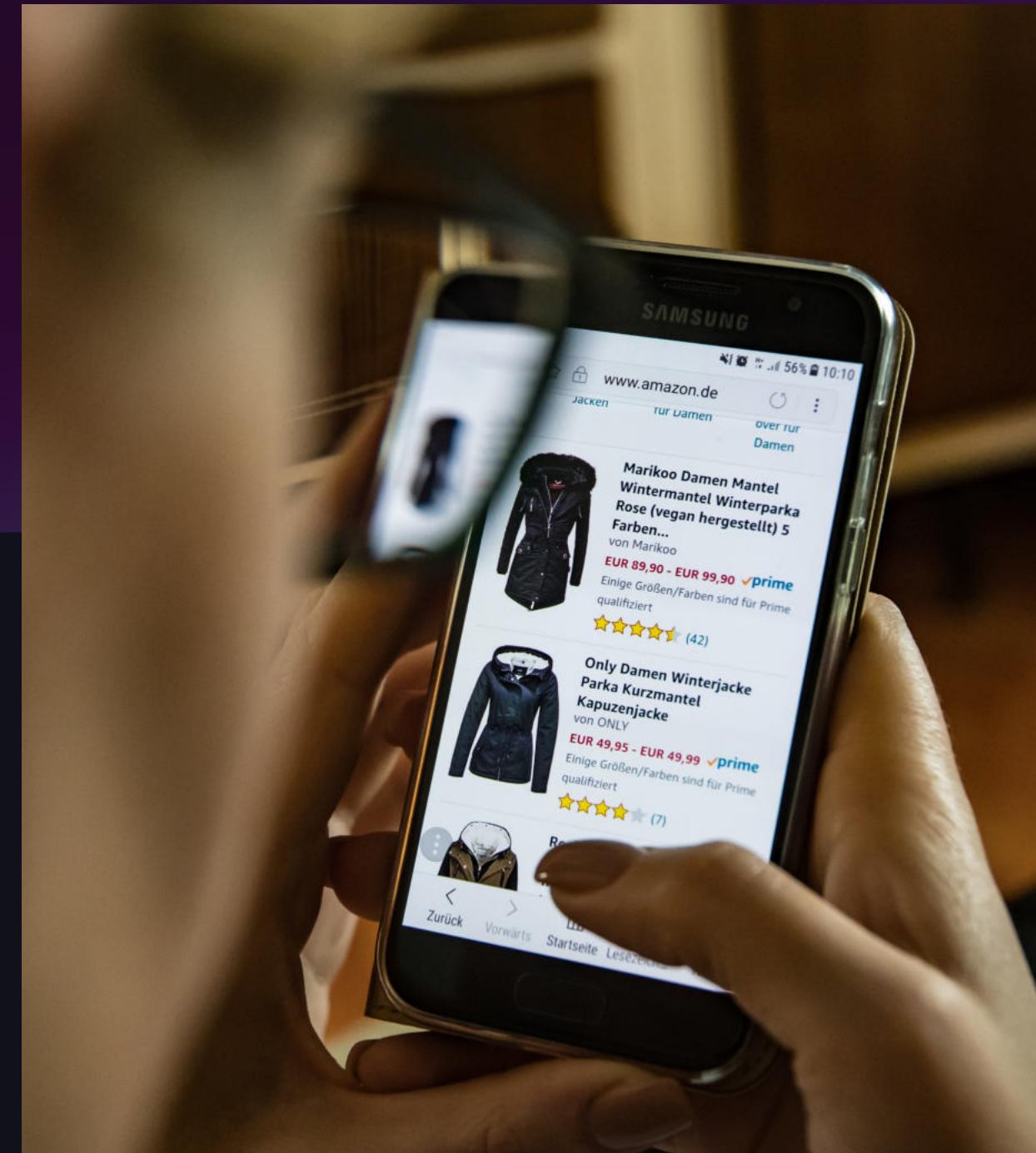
전년 동월대비 총 거래액 증가율

22.9%

( 12조 5,287억원 )

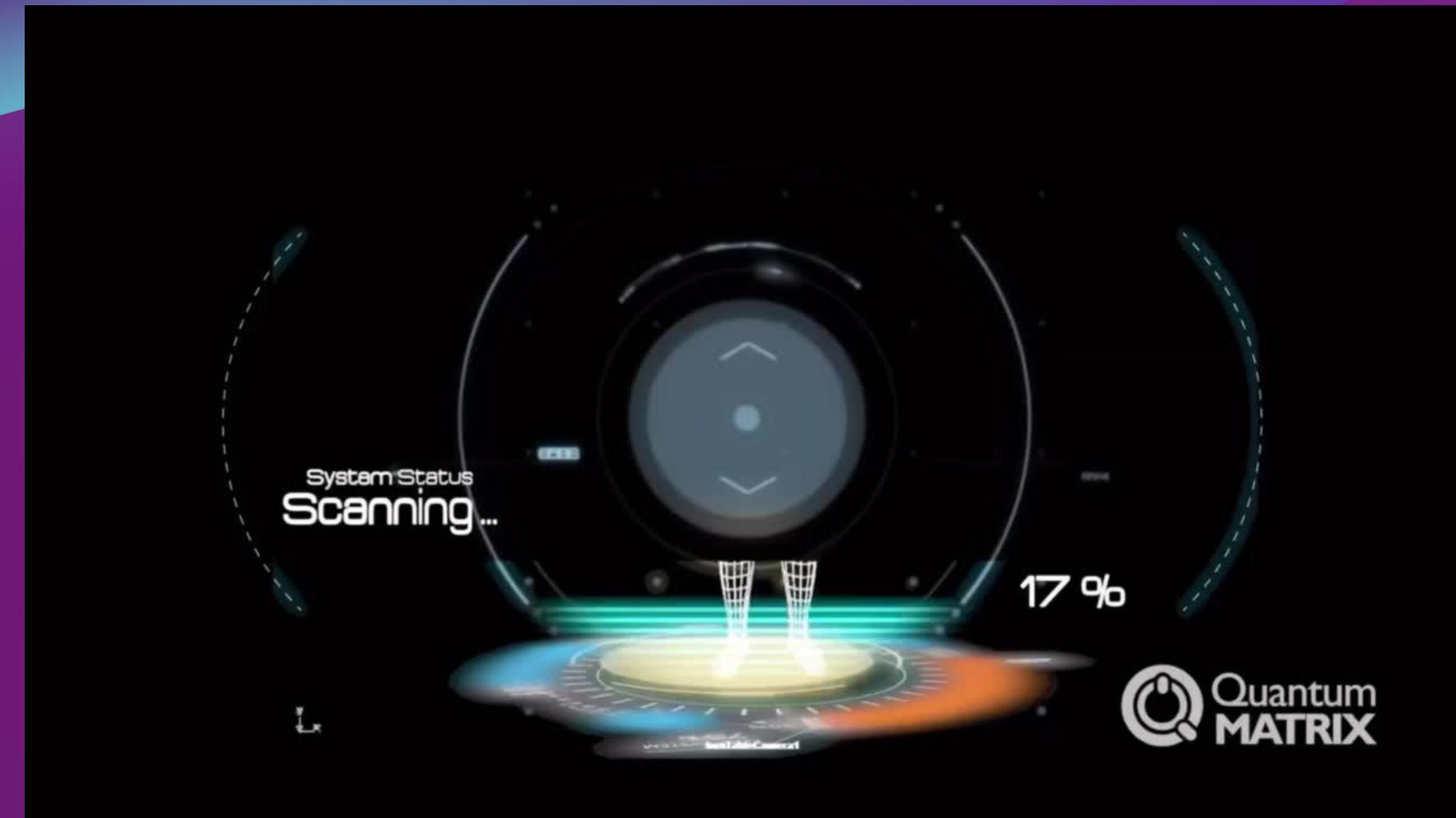
정보통신정책연구원 '코로나19로 인한 전자상거래 이용행태 변화 분석'

# 코로나19로 인한 온라인 쇼핑 증가



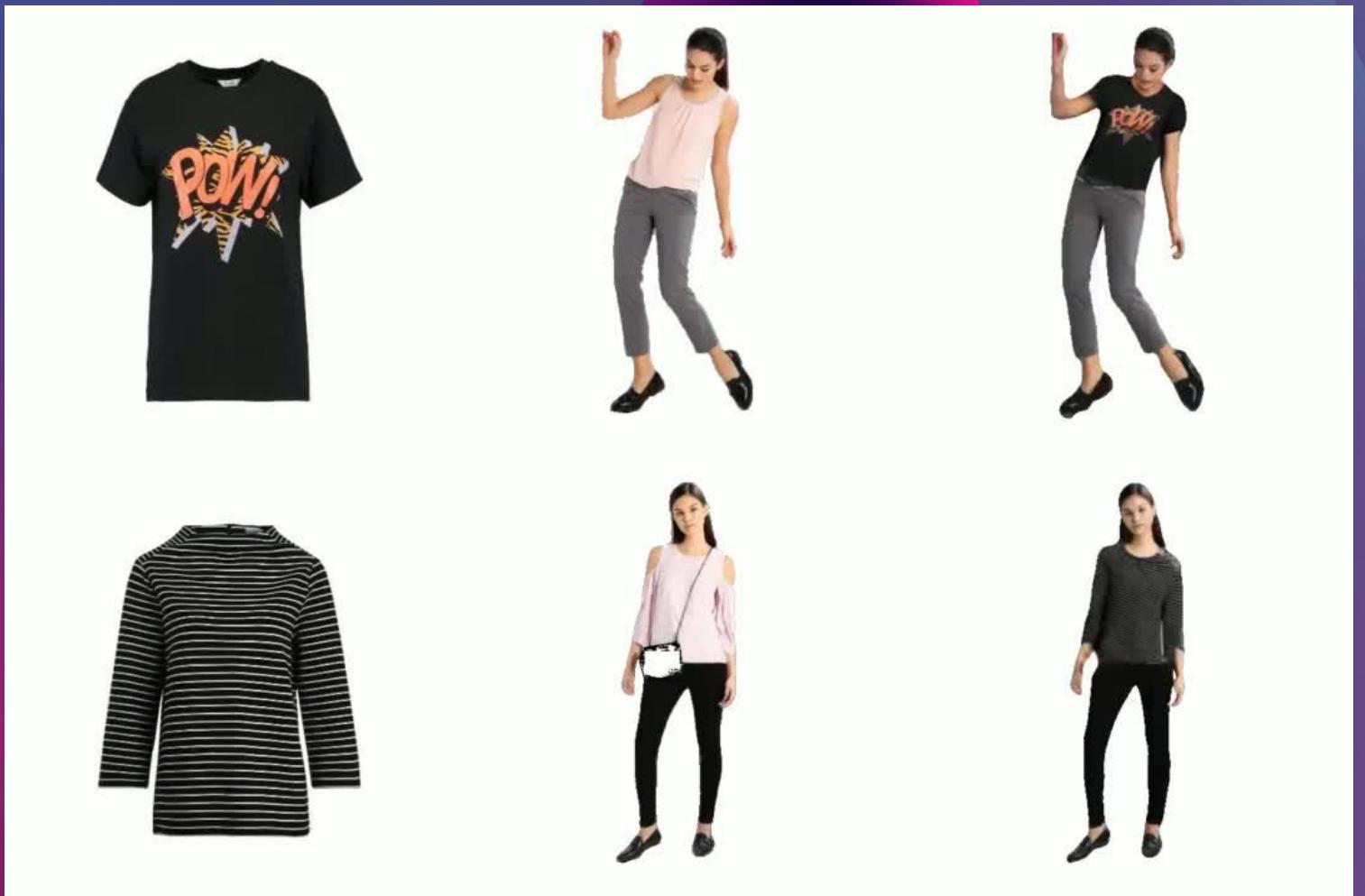
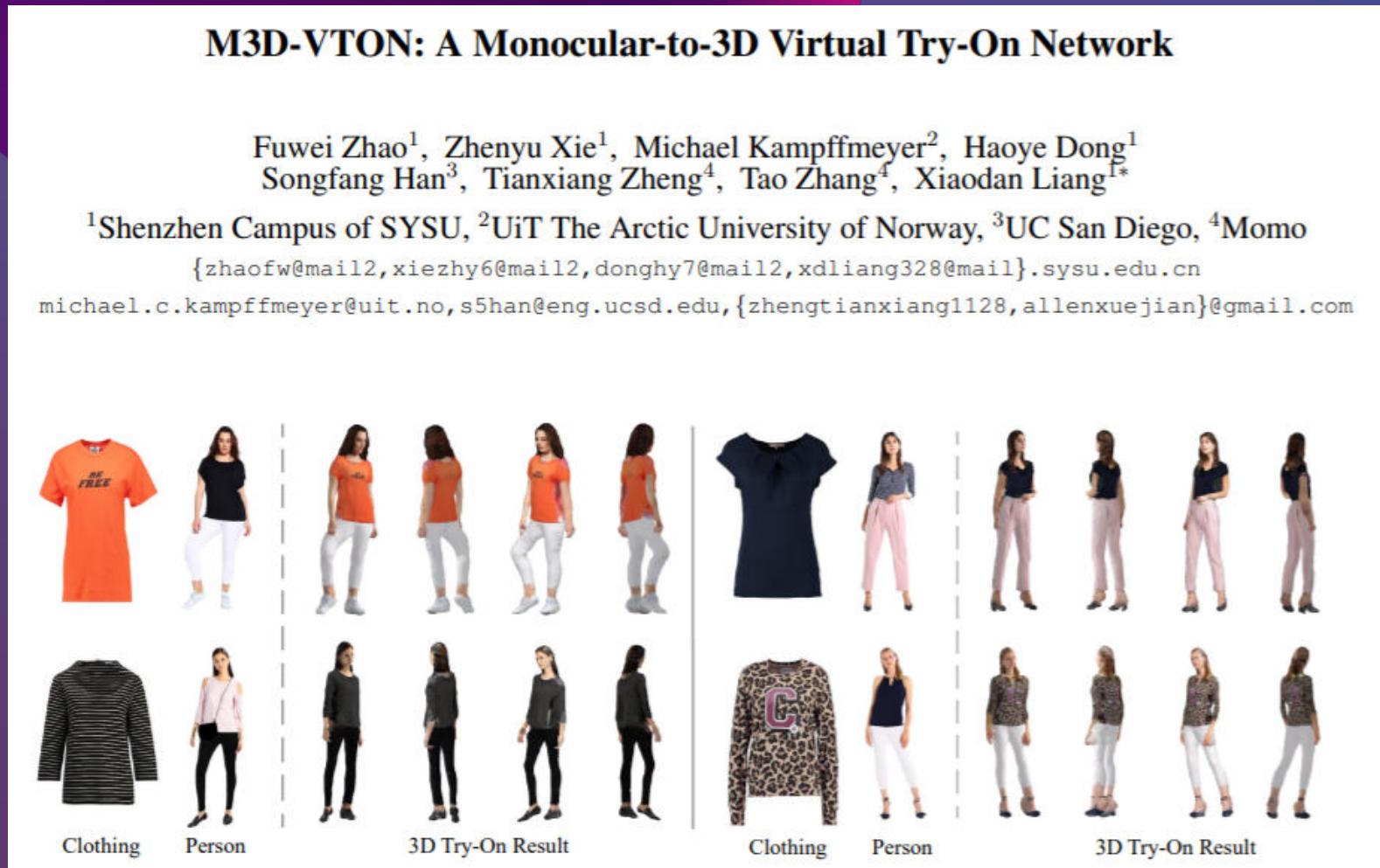
온라인쇼핑 트렌드 특화 서비스

# 3D 가상 피팅



<https://youtu.be/PIN5Boy3Y1c>

# 3D VIRTUAL TRY ON



# M3D-VTON

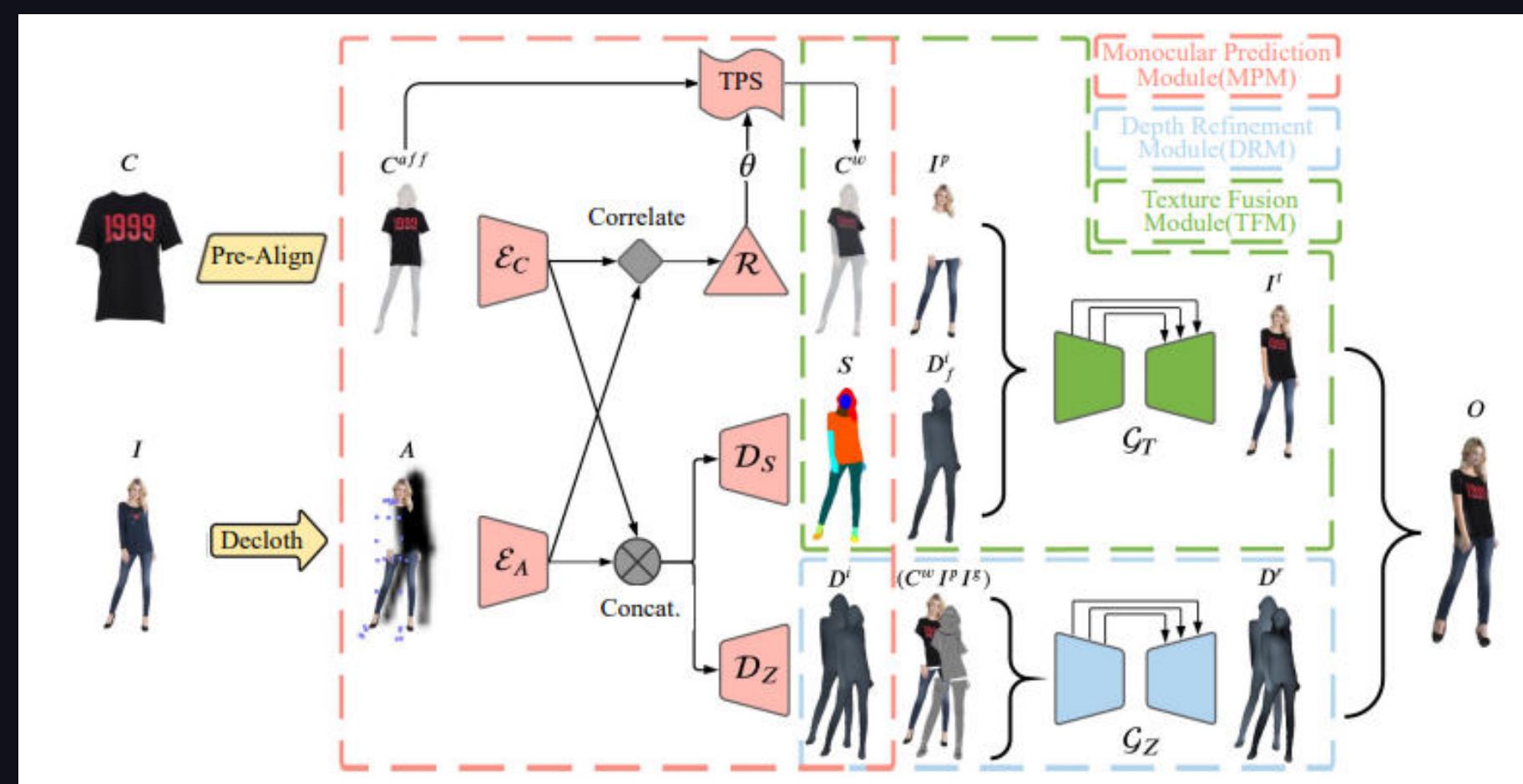


2D TRY-ON TASK



3D TRY-ON TASK

# M3D-VTON

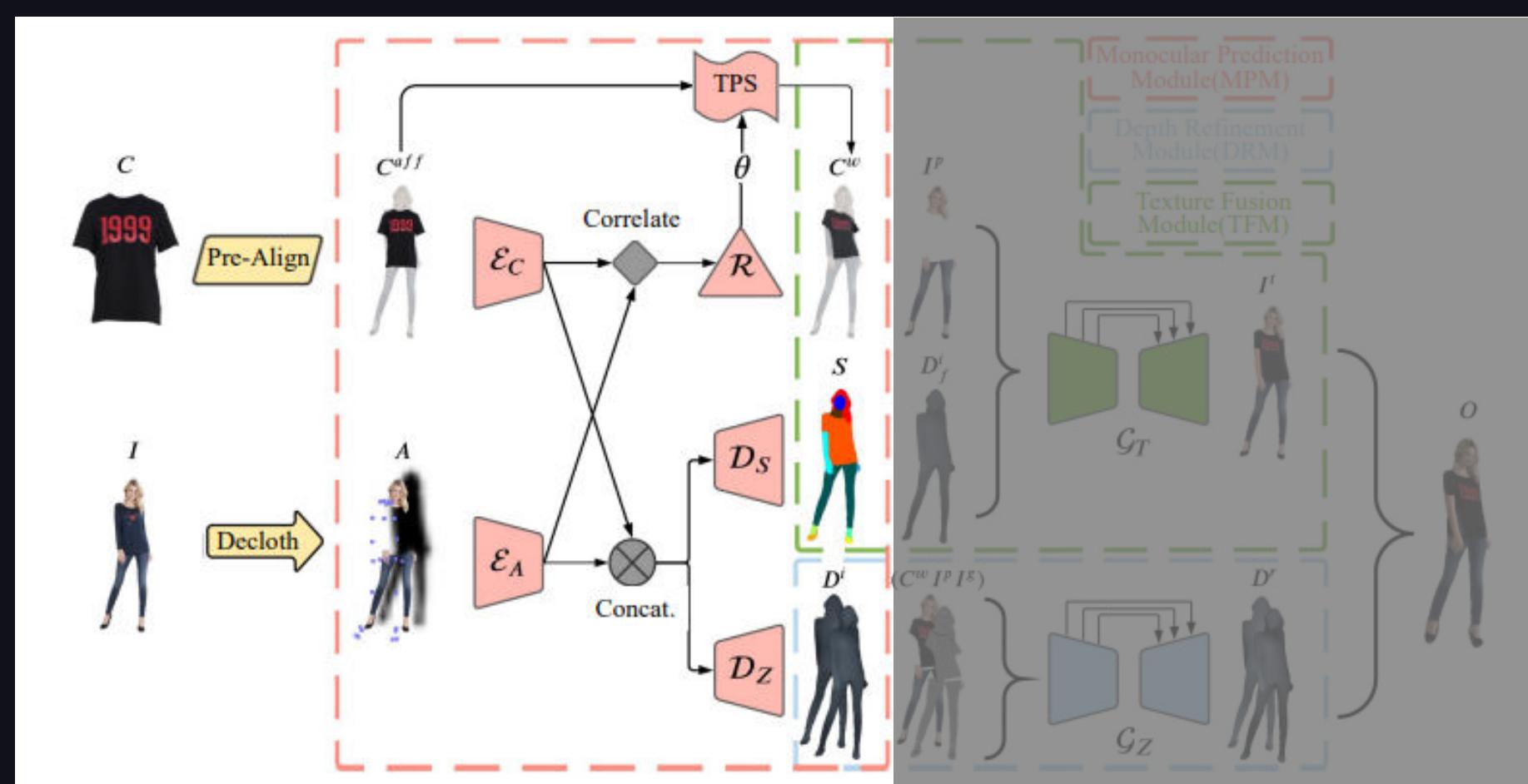


● **MPM** : Monocular Prediction Module

● **DRM** : Depth Refinement Module

● **TFM** : Texture Fusion Module

# M3D-VTON

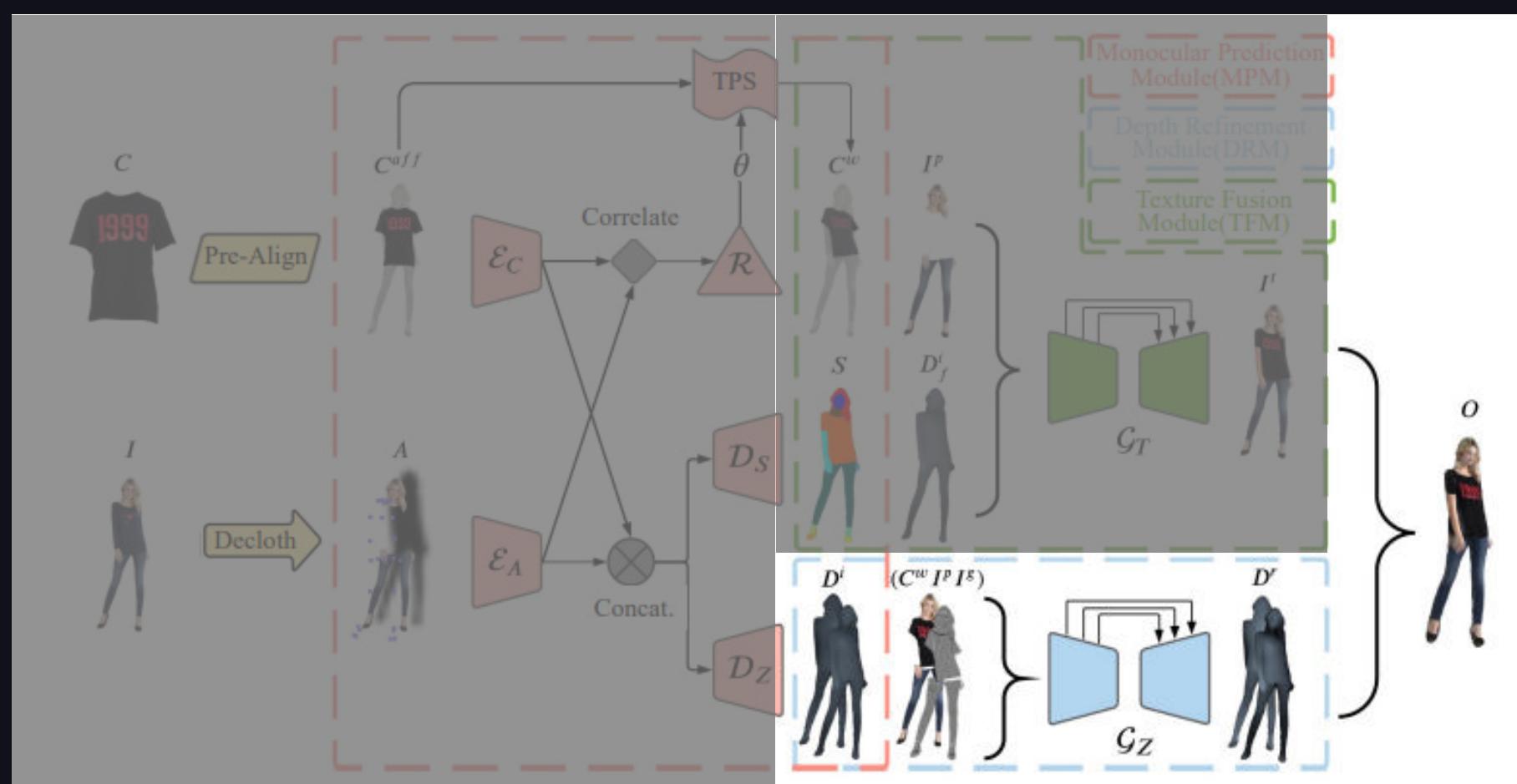


● **MPM** : Monocular Prediction Module

● **DRM** : Depth Refinement Module

● **TFM** : Texture Fusion Module

# M3D-VTON

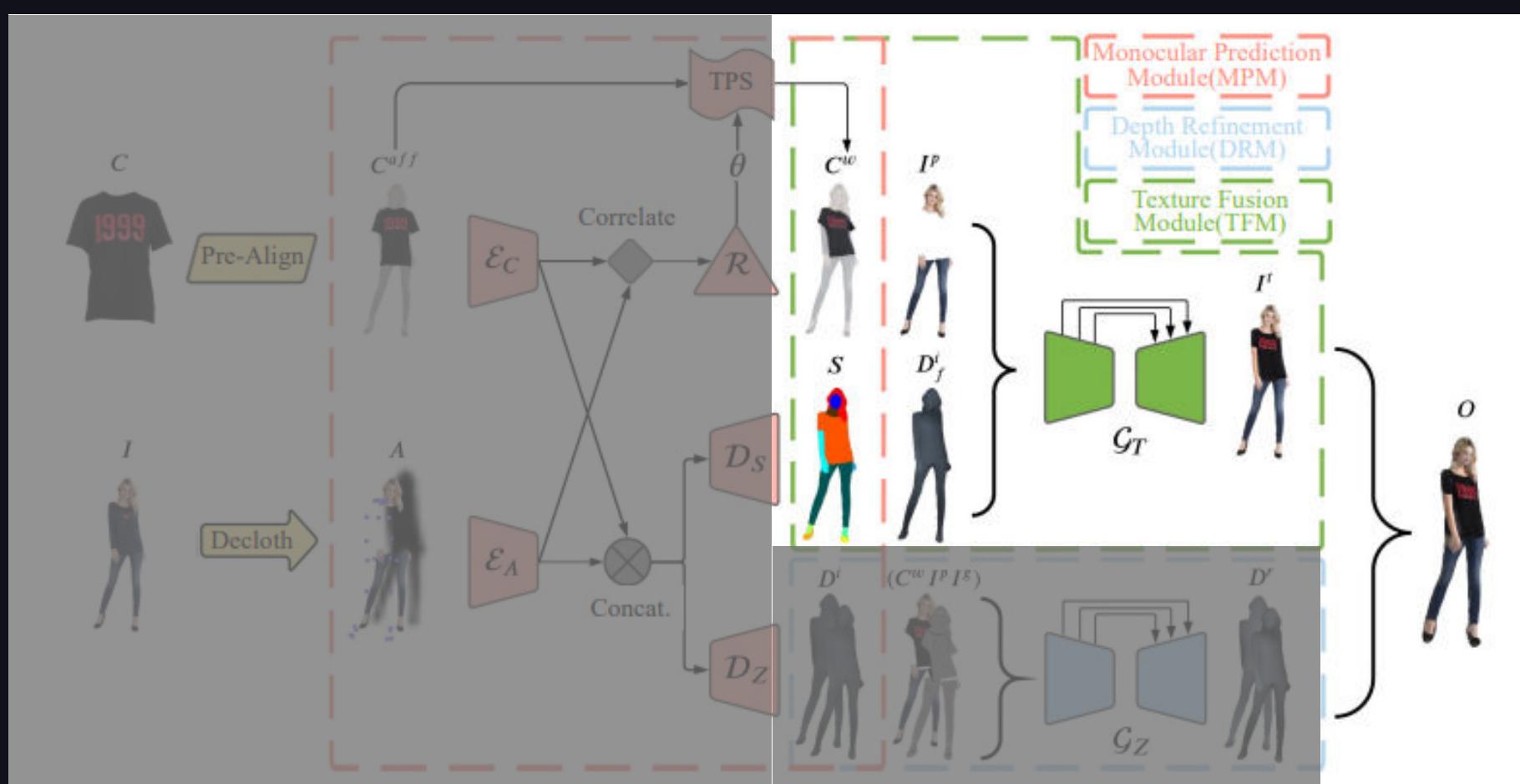


● **MPM** : Monocular Prediction Module

● **DRM** : Depth Refinement Module

● **TFM** : Texture Fusion Module

# M3D-VTON



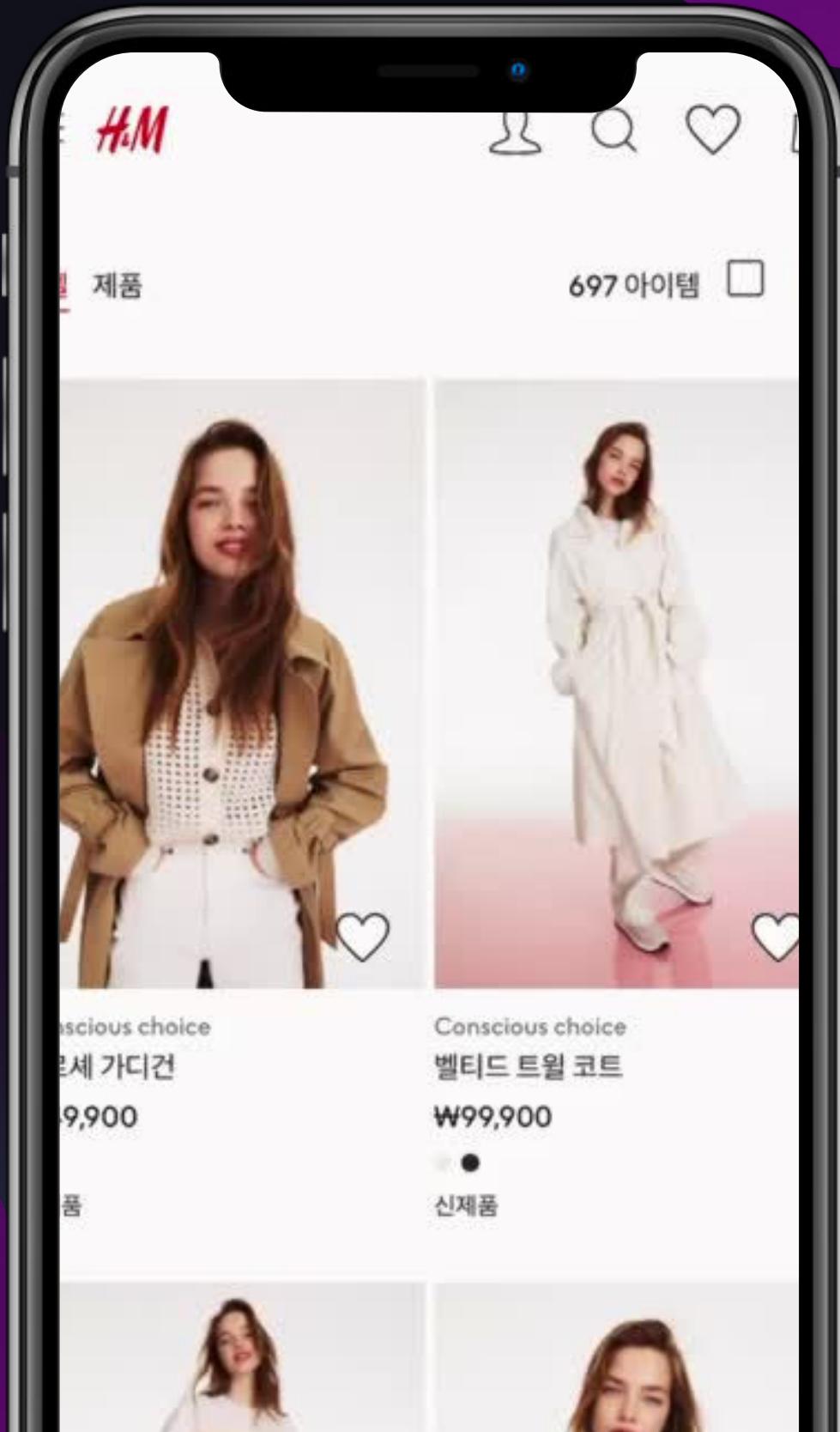
● **MPM** : Monocular Prediction Module

● **DRM** : Depth Refinement Module

● **TFM** : Texture Fusion Module

# Custom Data

H&M



- Input Image Resolution
- Cloth-mask
- Human Segmentation layout
- Open Pose (25 keypoints)
- etc

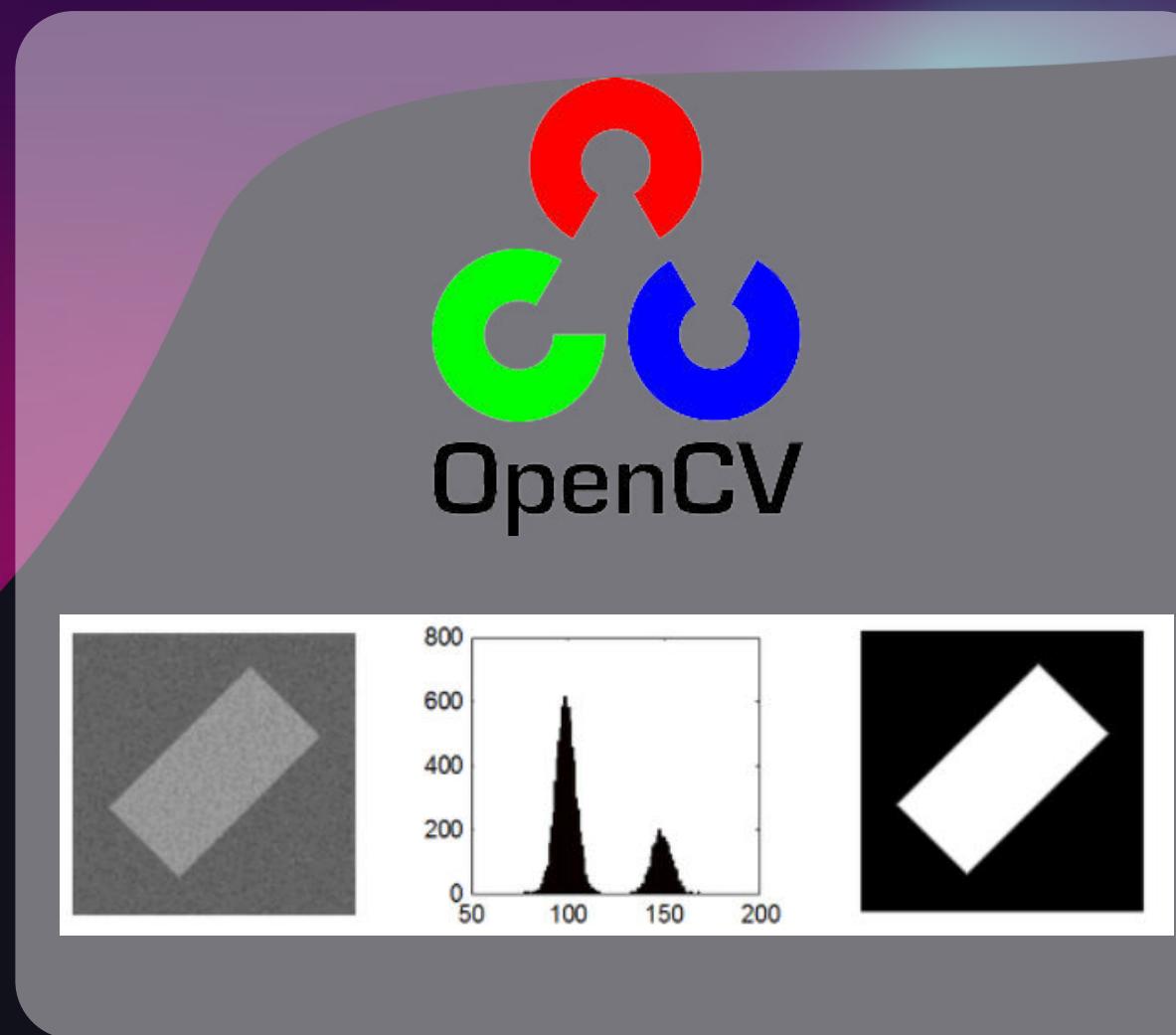
# Input 이미지 해상도 조절



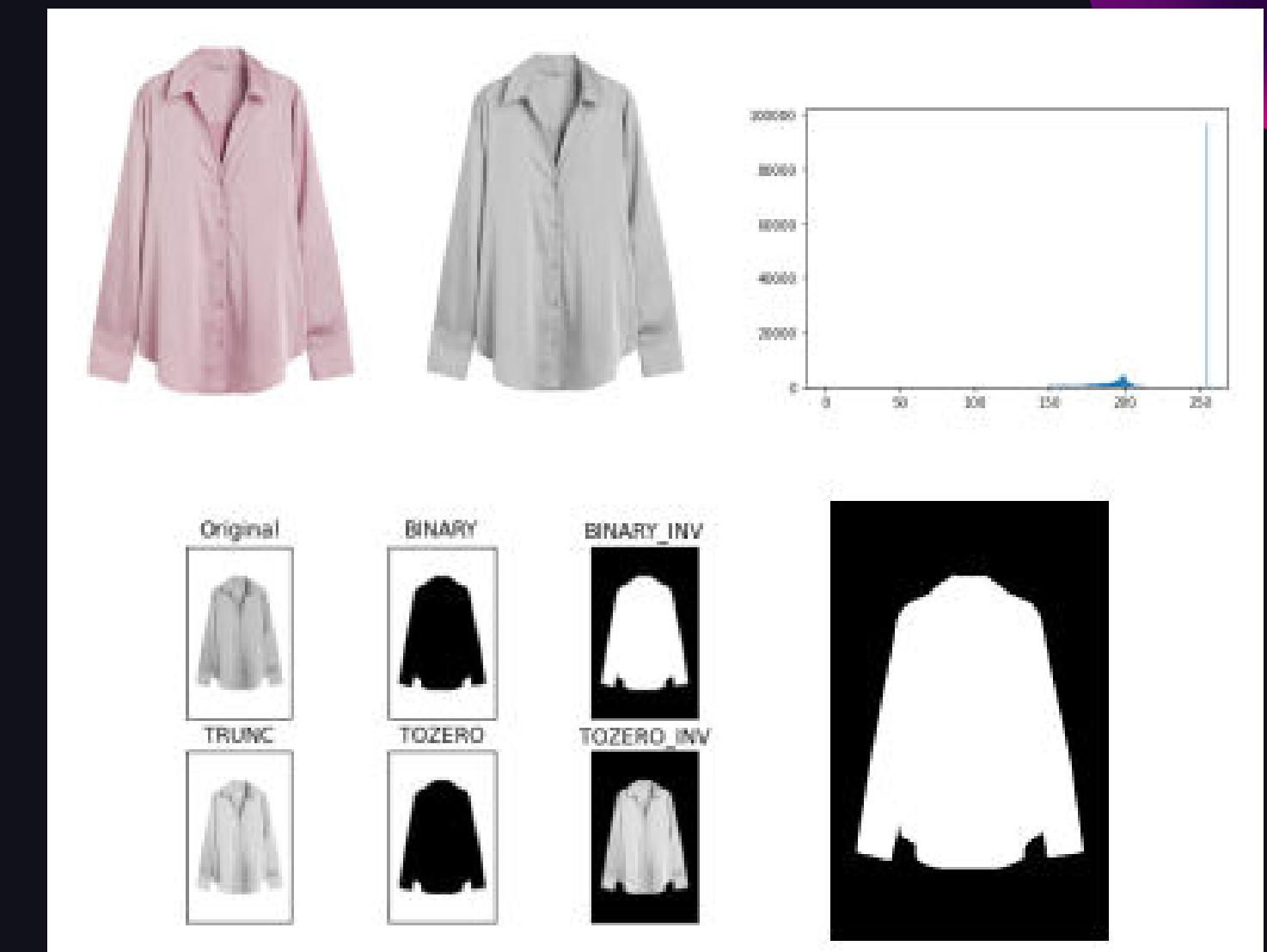
**320\*512**



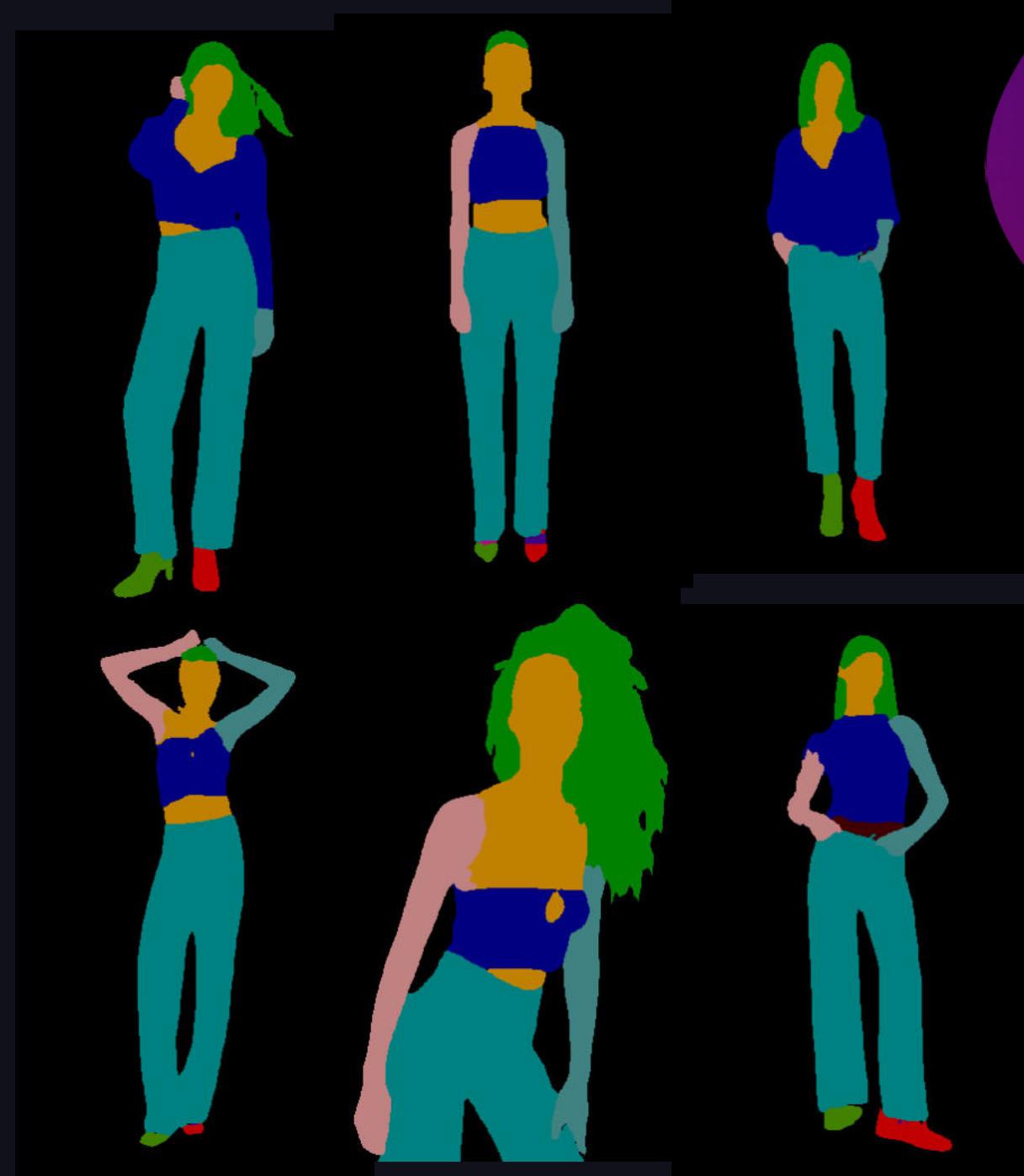
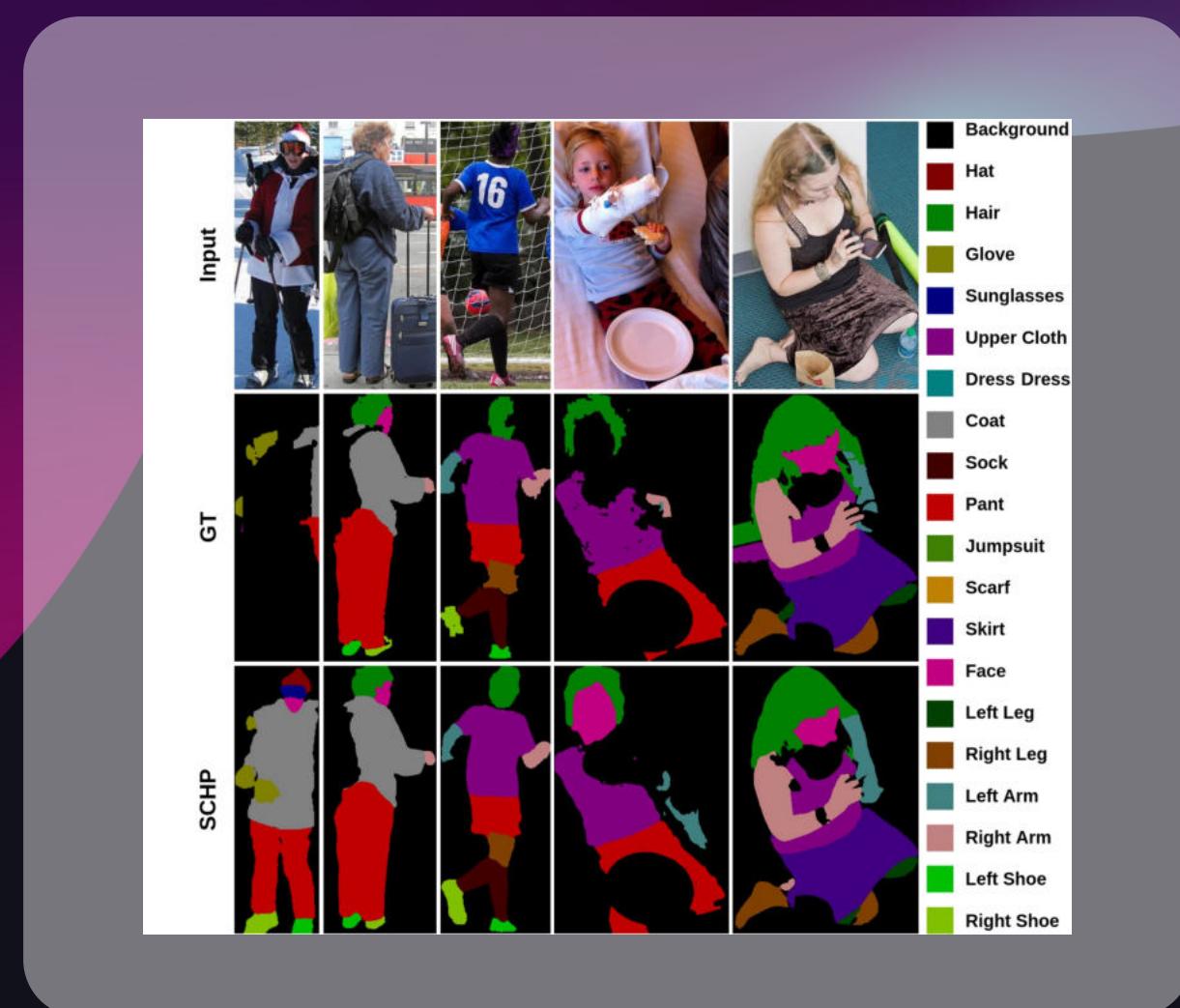
# Cloth-mask 생성 : Threshold 조절



그레이스케일  
영상의 이진화



# Human Segmentation layout



**PeikeLi/Self-Correction-Human-Parsing**

# Open Pose : 25 Keypoints



BODY25



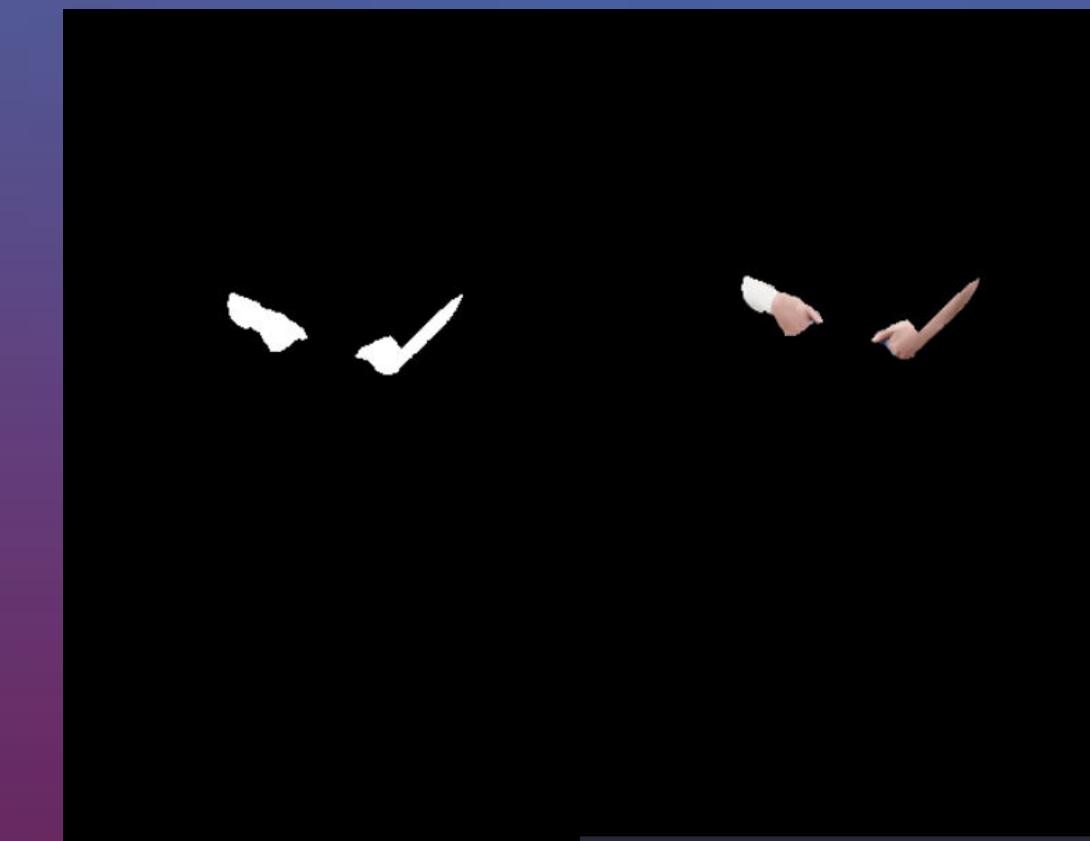
CMU-Perceptual-Computing-Lab/openpose

JSON file of 25 Keypoints

# etc



Pre-aligned clothing



Palm mask

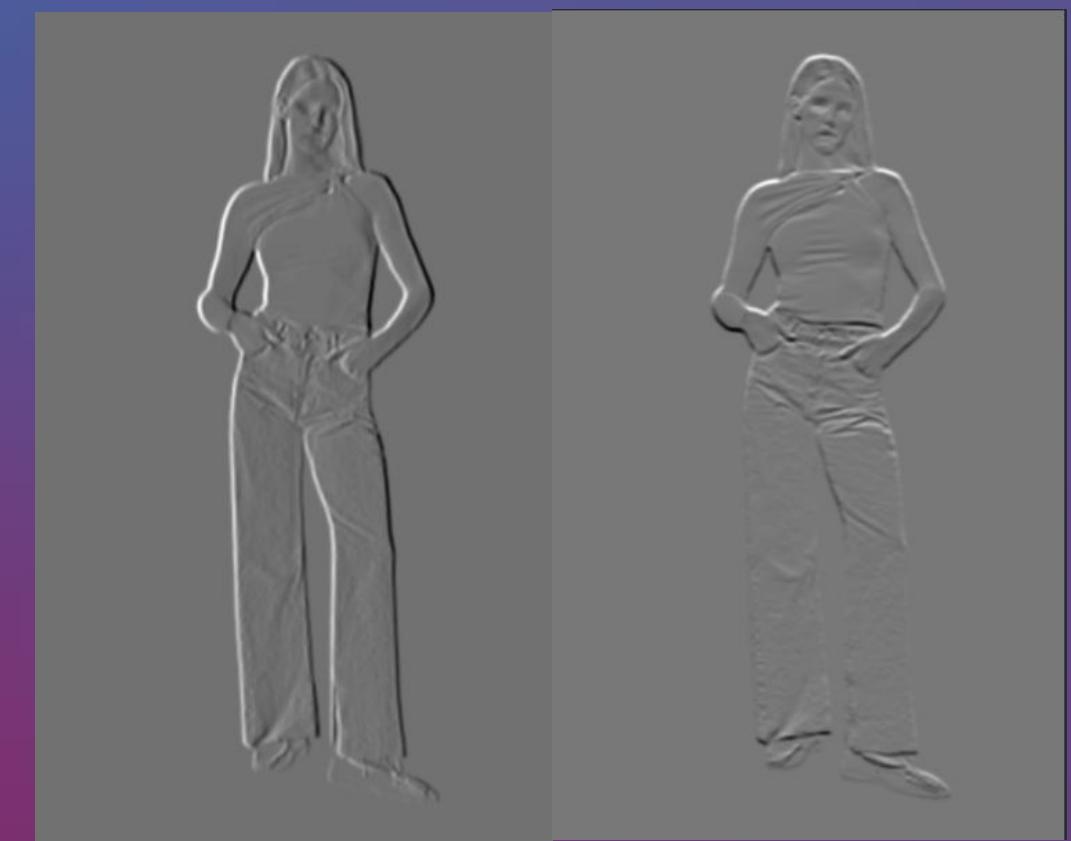


Image gradients

# Project results



- CREATE YOUR AVATAR
- **Personalized Measurements.**
- Find My Fit

# Project recall

- 기존 계획 부분 달성 후 히로쿠 배포
- Style News  
: 온라인 패션 플랫폼 및 SNS 데이터 분석
- 날씨에 따른 코디 추천
- 사용자 데이터 기반 스타일링 추천 시스템
- 아바타를 통해 여러 옷을 입어볼 수 있는  
가상 공간(VR) 제작

# REFERENCE

- [https://policy.nl.go.kr/search/searchDetail.do?rec\\_key=SH2\\_PLC20200258300](https://policy.nl.go.kr/search/searchDetail.do?rec_key=SH2_PLC20200258300)
- [http://125.61.91.238:8080/SynapDocViewServer/viewer/doc.html?key=0000000077af38a2017e70f21df05d44&convType=img&convLocale=ko\\_KR&contextPath=/SynapDocViewServer](http://125.61.91.238:8080/SynapDocViewServer/viewer/doc.html?key=0000000077af38a2017e70f21df05d44&convType=img&convLocale=ko_KR&contextPath=/SynapDocViewServer)
- <https://github.com/fyviezhao/m3d-vton>
- <https://github.com/PeikeLi/Self-Correction-Human-Parsing>
- <https://hanryang1125.tistory.com/2>
- <https://m.blog.naver.com/rhrkdfus/221531159811>
- <https://www.learnopencv.com/deep-learning-based-human-pose-estimation-using-opencv-cpp-python/>
- <https://github.com/CMU-Perceptual-Computing-Lab/openpose>
- [https://github.com/CMU-Perceptual-Computing-Lab/openpose\\_train](https://github.com/CMU-Perceptual-Computing-Lab/openpose_train)

THANK YOU

