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## **GarmentGan**: Photorealistic Adversarial Fashion Transfer

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### A method of transferring garments





#### Overview of proposed method





#### Shape Transfer Network





#### How to mask the segmentation map



- Mask the smallest rectangle that encompasses the target area
- Only mask attributes related to torso, arms and clothing region
- Retain the semantic information of the left and right hands



#### How to geometrically warp pixels

• Thin Plate Splines (TPS) are polyharmonic splines commonly used for data interpolation and smoothing operations





#### Appearance Transfer Network



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#### Visual comparison with previous works

- Sharpness of the synthesized image and fidelity to appearance transfer
- Complex Pose Performance
- Preserving Identity in the Reference Image



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#### **Complex Pose Performance**

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• Model handles complex body poses such as as when arms and body occlude each other



#### Preserving Identity in the Reference Image

• Model maintains the identity of the person in the reference image, and the details of the bottom clothing are preserved in produced images





#### Quantitative comparison



Model	Inception Score	FID
CP-VTON	2.63 +/- 0.07	23.08
GarmentGAN (w/o TPS)	2.72 +/- 0.08	17.40
GarmentGAN (Full Model)	2.77 +/- 0.08	16.57





- GarmentGAN is a novel GAN-based garment transfer method
- End-to-end trained model synthesizes higher quality images
- Handles complexities of body pose, garment shape, and occlusions

# THANK YOU