

Be your own prada

model

- Input: model segmentation map + textual descriptions
- Output: 3개의 new outfits onto 모델사진

문제점

- First, 모든 input이 same view of wearer 이어야 한다.
-> 기존의 non parametric 한 그래픽 방법으로 가능(실용성 떨어짐, textual description과 결합 x)
- Second, 옷이 짧거나 길어질 때 original과 bodyshape이 달라져야 함

DCGAN만으로 부족한 이유

- Input의 구조적 일관성을 강화하는 메커니즘이 없음
- Pixel averaging이 articles의 boundary를 희미하게 만듦

=> Two stage to solve it

When train we need

- 1 model wearing cloth + description about that cloth
-> input image 와 target image 둘 다로 쓰일 수 있음

Extract vector of binary feature


- \mathbf{a} : body, face, and other physical characteristics vector
- \mathbf{v} : text encoding

$$\mathbf{d} = (\mathbf{a}, \mathbf{v})$$

- S_0 : human segmentation map

- \mathbf{I} : synthesized image

Original segmestation의 저해상도


$$\tilde{S} \leftarrow G_{\text{shape}}(\mathbf{z}_S, \downarrow m(S_0), \mathbf{d}),$$

$$\tilde{I} \leftarrow G_{\text{image}}(\mathbf{z}_I, \tilde{S}, \mathbf{d}).$$

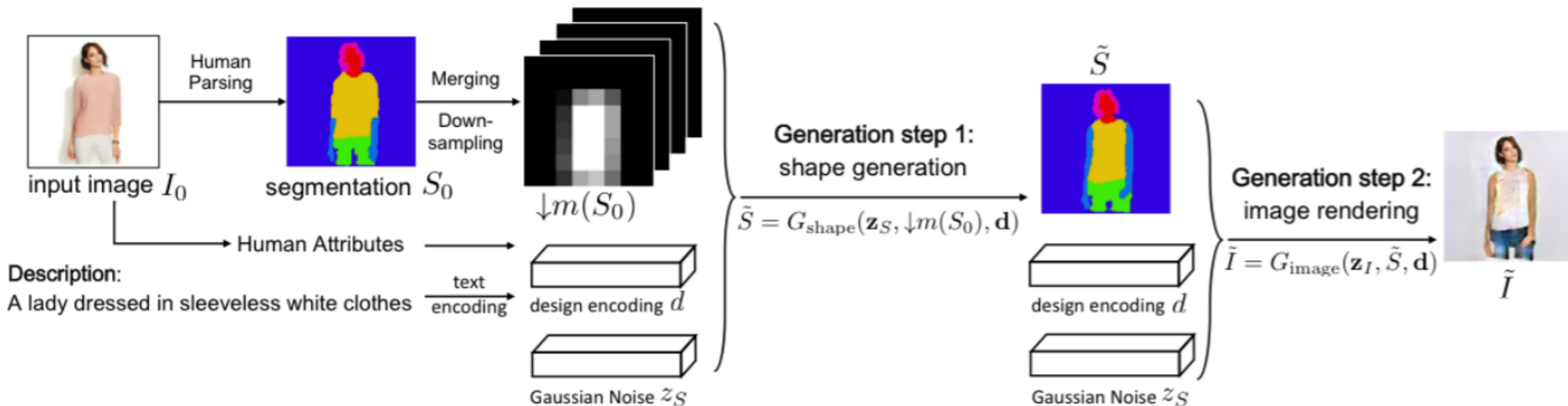
$$\tilde{S} \leftarrow G_{\text{shape}}(\mathbf{z}_S, \downarrow m(S_0), \mathbf{d}),$$

$$\tilde{I} \leftarrow G_{\text{image}}(\mathbf{z}_I, \tilde{S}, \mathbf{d}).$$

$$S_0 \in \{0, 1\}^{m \times n \times L}$$

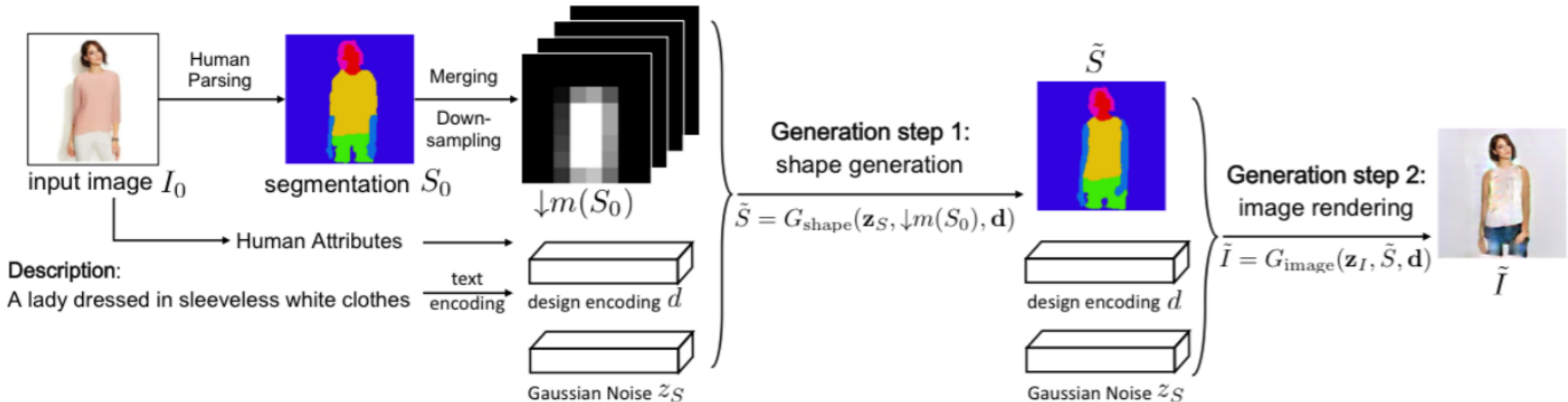
(m: 넓이, n: 높이)

L: 7{background, hair, face, upper-clothes, pants/shorts, legs, and arms}



Stage one

- human segmentation map 생성(bodyshape , upper garment)
- > preserve body shape



Stage two

- Generator input : segmentation map + texture description
->renders the region-specific texture onto the photograph

