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TryOnDiffusion: A Tale of Two UNets

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Problem Definition

Person image

Garment image

TryonDiffusion

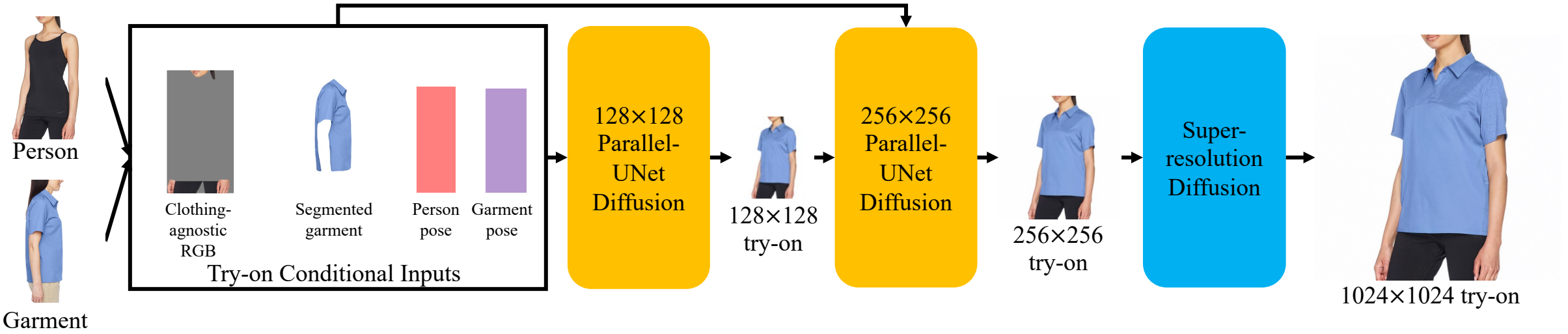
Person wearing the garment

Parallel-UNet Diffusion

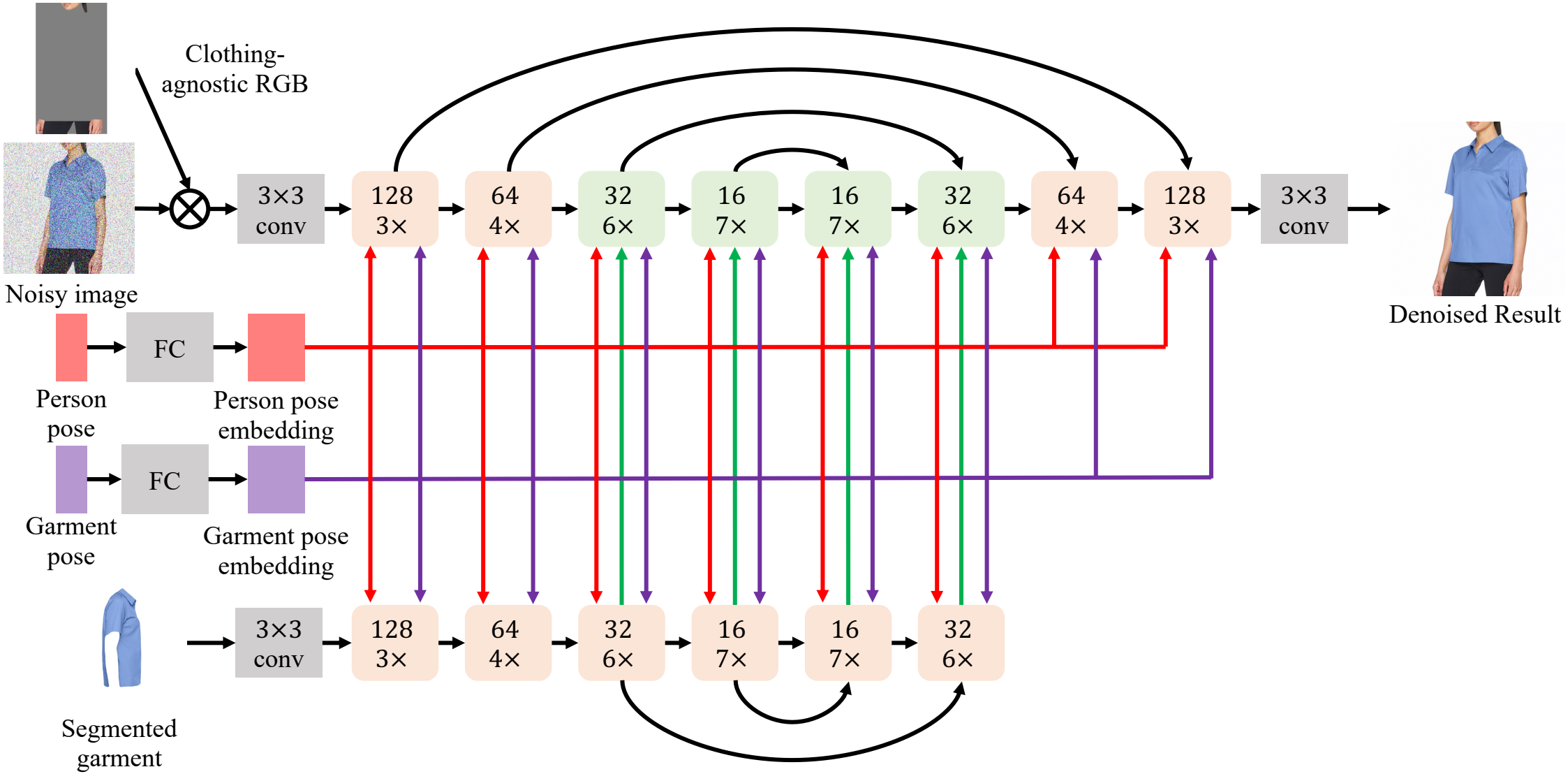
Implicit warping with cross-attention

Warping and blending in a single pass

Pipeline Overview



Parallel-UNet



Comparison to State-of-the-arts

Quantitative Results

Test datasets	Ours		VITON-HD	
Methods	FID ↓	KID ↓	FID ↓	KID ↓
TryOnGAN [26]	24.577	16.024	30.202	18.586
SDAFN [2]	18.466	10.877	33.511	20.929
HR-VITON [25]	18.705	9.200	30.458	17.257
Ours	**13.447**	**6.964**	**23.352**	**10.838**

Table 1. Quantitative comparison to 3 baselines. We compute FID and KID on our 6K test set and VITON-HD's unpaired test set. The KID is scaled by 1000 following [22].

Methods	Random	Challenging
TryOnGAN [26]	1.75%	0.45%
SDAFN [2]	2.42%	2.20%
HR-VITON [25]	2.92%	1.30%
Ours	**92.72%**	**95.80%**
Hard to tell	0.18%	0.25%

Table 2. Two user studies. "Random": 2804 random input pairs (out of 6K) were rated by 15 non-experts asked to select the best result or choose "hard to tell". "Challenging": 2K pairs with challenging body poses were selected out of 6K and rated in same fashion. Our method significantly outperforms others in both studies.

Simple cases

minimum garment warp and simple texture pattern

Simple cases

minimum garment warp and simple texture pattern

Challenging cases

extreme body pose and shape differences

Challenging cases

extreme body pose and shape differences

VITON-HD unpaired testing set

Ablation Studies

Concatenation VS Cross attention

Combining warp and blend
VS
sequencing two tasks

More Results on Testing Set


Person
Garment
KEEP
ACTIVE


Person
Garment
Person
Garment



Subject 1

Subject 2

Subject 3

Subject 4

Subject 5

Subject 6

Subject 7

Subject 8

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Thank You

Project website

https://tryondiffusion.github.io/