AnyDressing: Customizable Multi-Garment Virtual Dressing via Latent Diffusion Models

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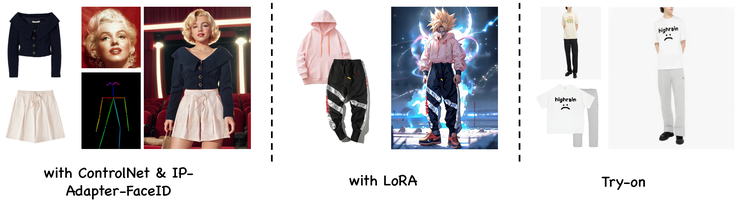
Challenge

Multi-Garment Virtual Dressing:

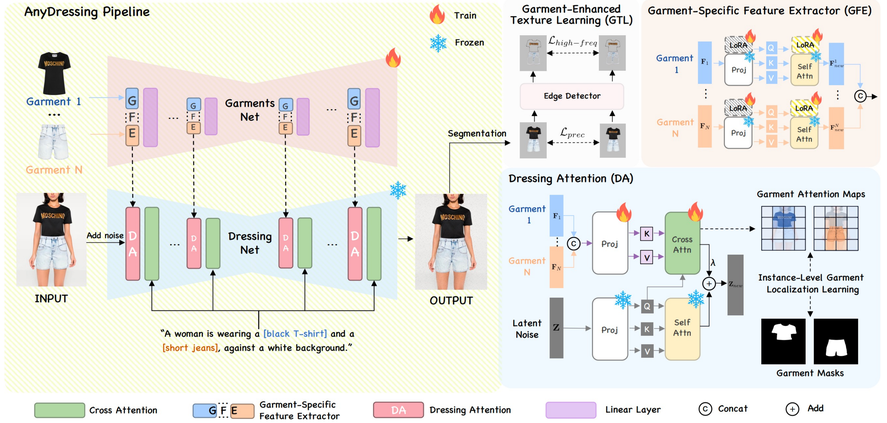
➢ ***Garment Fidelity:*** Existing methods encounter confusion while preserving the intricate textures of each

➢ ***Text-Image Consistency:*** Ensure the faithfulness to the prompts

➢ ***Plugin Compatibility***



Method



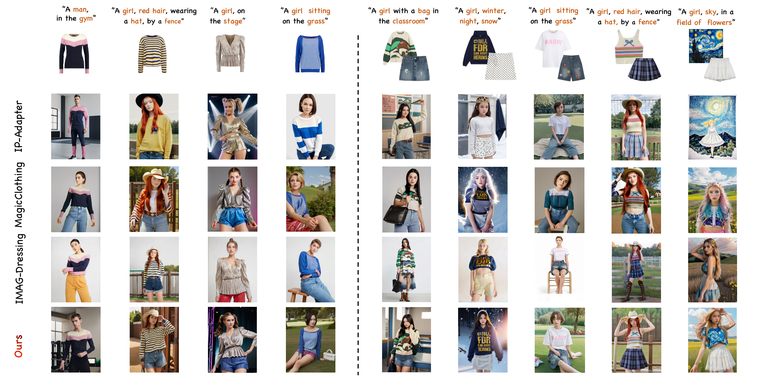
- ***GarmentsNet:*** Efficiently capture multi-garment textures in parallel by employing **Garment-Specific Feature Extractor**, which utilizes **parallelized self-attention Lora layers within a shared U-Net** architecture to individually encode garment textures
- ***DressingNet:*** Incorporating a **Dressing Attention (DA)** mechanism to seamlessly integrate multi-garment features into the denoising process; introducing a novel **Instance Level Garment Localization (IGL)** learning strategy to avoid influencing other irrelevant regions in the synthetic image
- ***Garment-Enhanced Texture Learning:*** Imposing constraints from **perceptual features and high-frequency information** to effectively enhance the fine-grained texture details in synthetic images
- ***SOTA Performance:*** Seamlessly integrate with any community control plugins and both quantitative and qualitative results demonstrate the superiority of our AnyDressing

Results

- ***AnyDressing outperforms baselines in all metrics***

Method	Single Garment				Multiple Garments			
	VITON-HD [5]				Dressing-Pair			
	CLIP-T ↑	CLIP-I ↑	CLIP-AS ↑	DINO ↑	CLIP-T ↑	CLIP-I ↑	CLIP-AS ↑	DINO ↑
IP-Adapter [54]	0.268	0.644	5.674	0.500	0.272	0.632	5.678	0.460
StableGarment [48]	0.285	0.583	5.781	0.522	0.281	0.587	5.648	0.510
MagicClothing [4]	0.288	0.640	5.703	0.363	0.298	0.619	5.784	0.340
IMAGDressing [42]	0.202	0.734	5.077	0.553	0.230	0.684	5.133	0.453
Ours	0.289	0.741	5.881	0.571	0.296	0.710	5.931	0.559

Method	Multiple Garments			
	Dressing-Pair			
	CLIP-T ↑	CLIP-I ↑	CLIP-AS ↑	DINO* ↑
IP-Adapter [54]	0.277	0.523	5.795	0.350
StableGarment [48]	0.284	0.556	5.735	0.412
MagicClothing [4]	0.266	0.583	5.540	0.290
IMAGDressing [42]	0.242	0.614	5.291	0.378
Ours	0.296	0.734	5.874	0.674



- ***The effectiveness of each proposed module***