StableDrag: Stable Dragging for Point-based Image Editing

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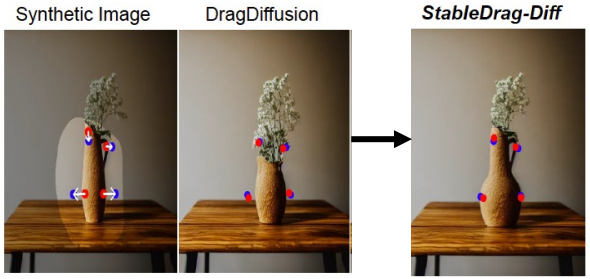
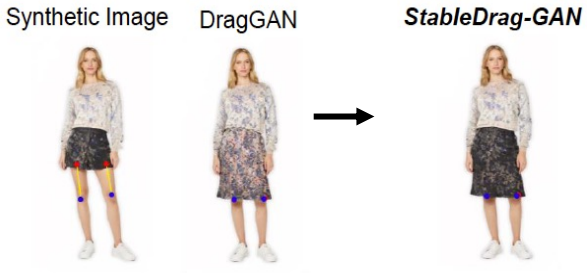
Motivation

a) Inaccurate point tracking



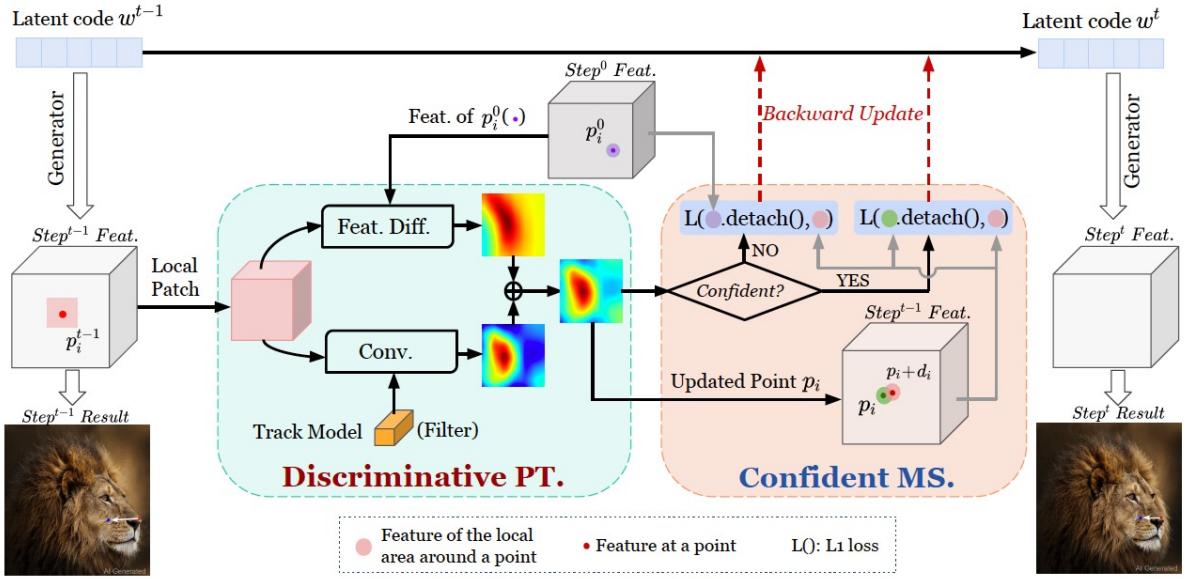
b) Incomplete motion



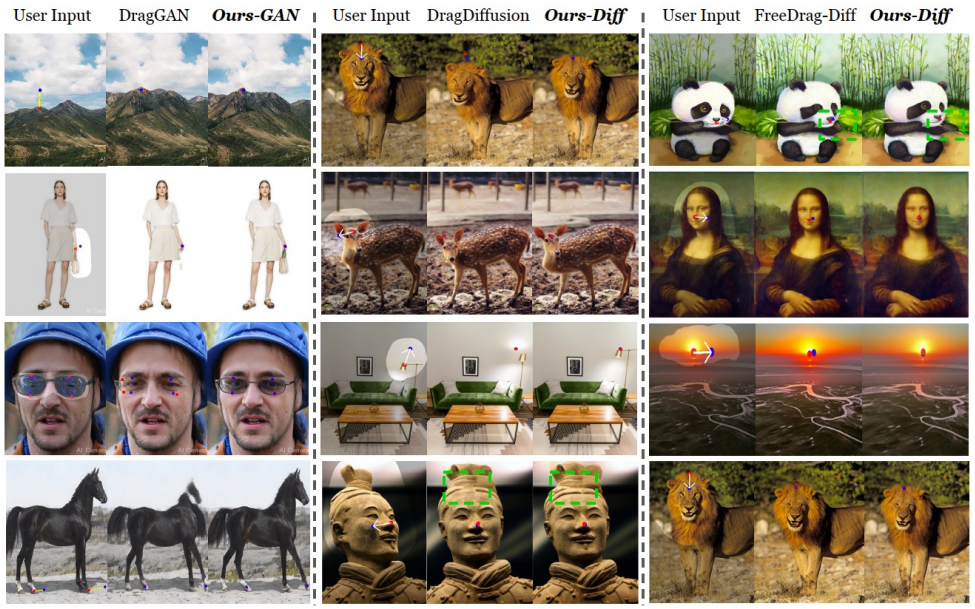
Contributions

- A ***discriminative point tracking*** method
  → distinguishing the updated handle points from the distractor ones
- A ***confidence-based latent enhancement strategy*** for motion supervision
  → Improving the optimization quality
- We build ***StableDrag***, a point-based image editing framework

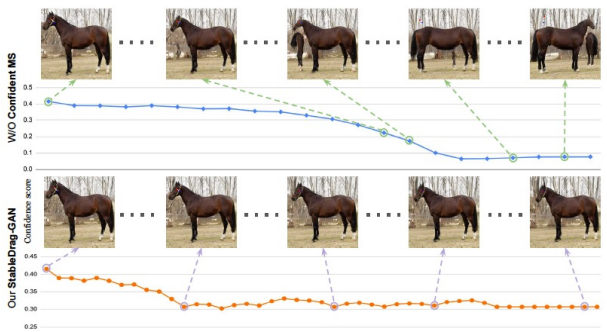
Structure of the StableDrag

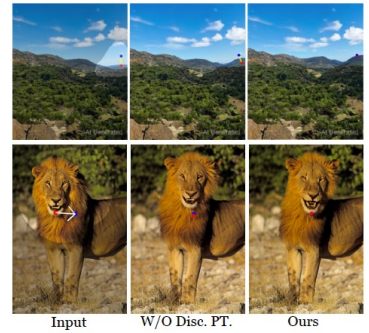


Experiments



Comparison with DragGAN, DragDiffusion and FreeDrag





Ablation: a) latent enhancement strategy; b) discriminative point tracking

Optimization Steps	60	80	100
Metric	MD/IF	MD/IF	MD/IF
DragDiffusion	39.58/0.876	37.98/0.868	38.86/0.863
StableDrag-Diff	**36.36/0.893**	**36.98/0.884**	**35.92/0.869**

Quantitative comparison on DragBench, 'MD' denotes Mean Distance and 'IF' is the Image Fidelity