



iMontage: Unified, Versatile, Highly Dynamic Many-to-many Image Generation

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CVPR
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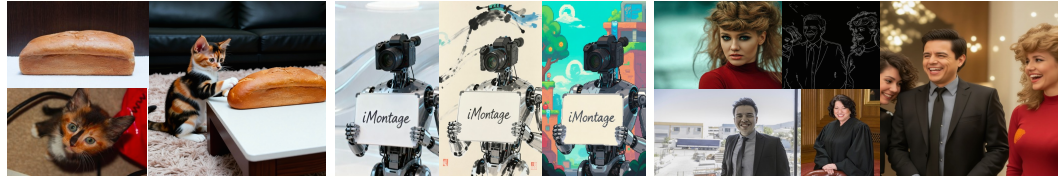
DENVER
COLORADO

Unified Tasks

One-to-One Editing



Many-to-One Generation



Many-to-Many Generation

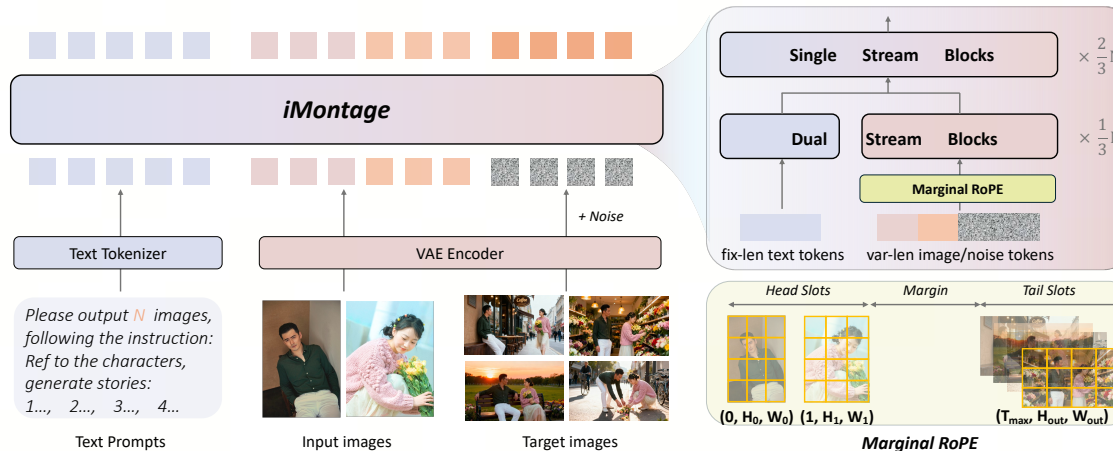


A unified video-prior-based framework that flexibly consumes and produces variable-length image sets

Motivation

- Image** Models offer diversity but lack temporal/world consistency.
- Video** Models provide strong motion priors but are biased towards continuous clips.
- iMontage** bridges the gap: **highly dynamic** image sets with **strong semantic and temporal consistency**.

Pipeline



Quantitative Comparison

Category	Models	Motion Change - GEdit			Edit overall - GEdit			ImgEdit	
		$G_{SC} \uparrow$	$G_{PQ} \uparrow$	$G_O \uparrow$	$G_{SC} \uparrow$	$G_{PQ} \uparrow$	$G_O \uparrow$	Action	Average
Closed-source	Gemini 2.5[12]	6.87	7.79	6.72	8.25	8.29	7.89	4.61	4.30
	GPT-4o[36]	7.81	8.53	7.81	8.74	7.67	8.01	4.83	4.30
	Seedream 4.0[3]	5.58	8.53	5.53	8.41	8.04	7.81	4.66	4.32
Open-source	ICEdit[70]	0.93	7.98	1.13	4.94	7.39	4.87	3.68	3.05
	Omnigen[59]	3.35	6.68	3.12	5.88	5.87	5.01	3.38	2.96
	Omnigen2[54]	4.75	8.08	5.13	7.16	6.77	6.41	4.68	3.44
	Bagel[14]	5.25	8.03	5.09	7.48	6.80	6.60	4.17	3.20
	UniWorld-V1[29]	1.58	7.55	1.76	4.93	7.43	4.85	2.74	3.26
	HiDream-1I (E1)[4]	1.58	7.23	1.66	5.66	6.06	5.01	3.33	3.17
	HiDream-E1.1[20]	5.55	7.80	5.64	7.15	6.65	6.42	4.18	3.97
	Flux-Kontext-dev[26]	5.23	7.53	4.95	7.16	7.37	6.51	4.35	3.97
	StepIX-Edit v1.1[33]	4.65	8.15	4.73	7.66	7.35	6.97	3.73	3.90
Open-source	iMontage (Ours)	<u>5.25</u>	8.43	<u>5.53</u>	7.21	7.80	<u>6.94</u>	<u>4.48</u>	4.11
Category	Model	SINGLE		MULTIPLE		SCENE		Char. + Obj.	Average $\uparrow$
		Char.	Obj.	Char.	Obj.	Char.	Obj.		
Closed-source	Gemini 2.5[12]	8.62	9.11	8.77	8.88	7.39	7.29	7.05	7.84
	GPT-4o[36]	8.90	9.01	9.07	8.95	8.54	8.90	8.44	8.80
Open-source	InfiniteYou[23]	6.05	—	—	—	—	—	—	—
	Omnigen[59]	7.21	5.71	5.65	5.44	4.68	3.59	4.32	4.34
	UNO[57]	6.60	6.83	2.54	5.61	4.39	2.06	3.33	4.71
	BAGEL[14]	5.48	7.03	5.17	6.64	6.24	4.07	5.71	5.73
	Omnigen2[54]	8.05	7.58	7.11	7.13	7.45	6.38	6.71	7.18
Open-source	iMontage (Ours)	<u>7.94</u>	7.77	<u>6.75</u>	7.57	8.20	6.90	6.81	7.41

More Results

Image Edit



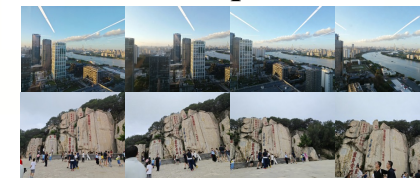
In-Context Gen



Style-Ref Gen



World Exploration



Storyboard Gen

