

Inverse Image Editing: Recovering a Semantic Editing History from a Before-and-After Image Pair

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- To better see differences between images, please use navigation keys (← and → on the keyboard) to flip between pages.

The following pages contain all the 21 image editing examples for user study. Each example contains the before-and-after image pair, the original editing history by artists, and our recovered editing history.

Example 1

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Example 2

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Example 3

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Example 4

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2

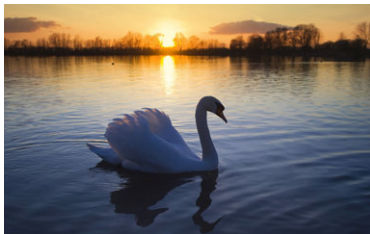


Our Recovered Sequence: Step 3



Example 5

Before-and-after image pair

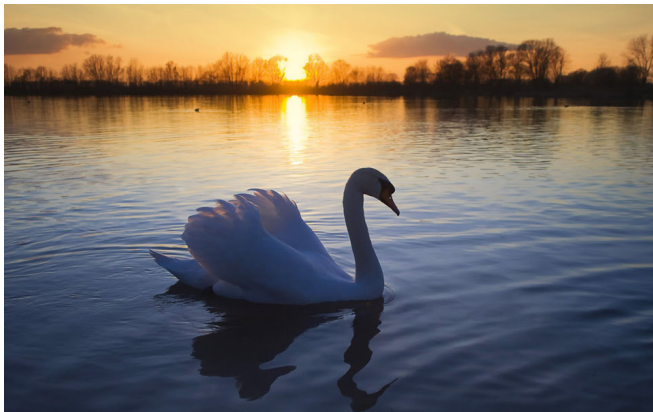


Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2

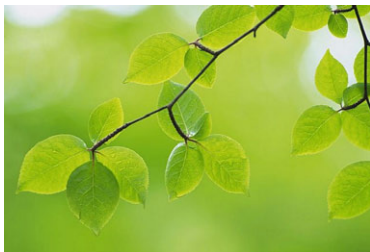


Our Recovered Sequence: Step 3



Example 6

Before-and-after image pair

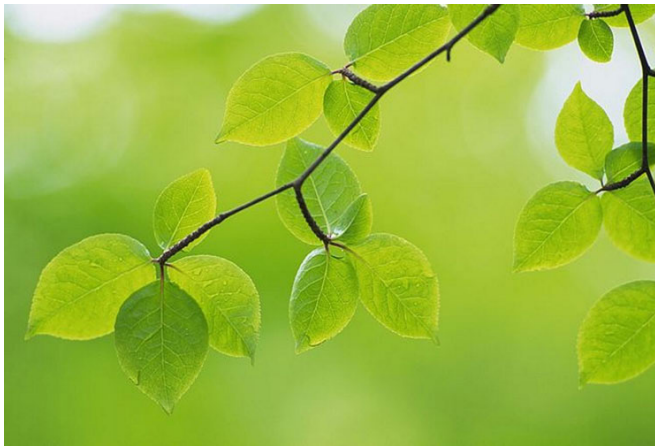


Before-edit image

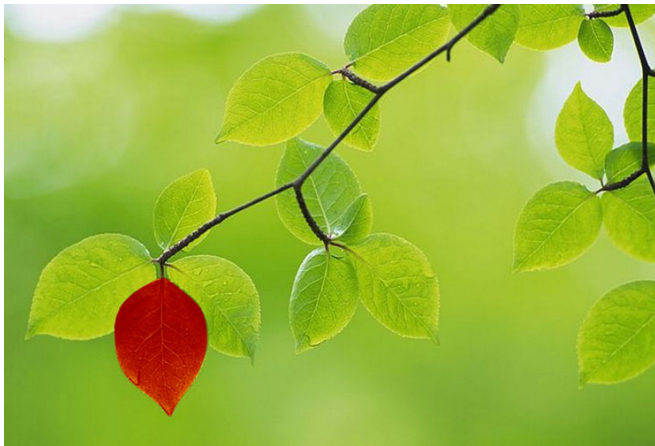


After-edit image

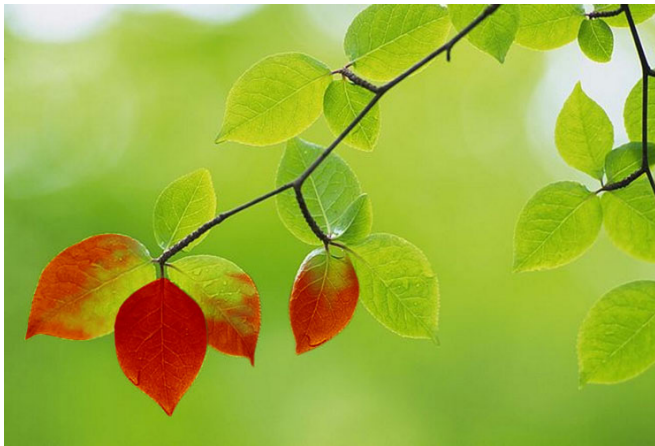
Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



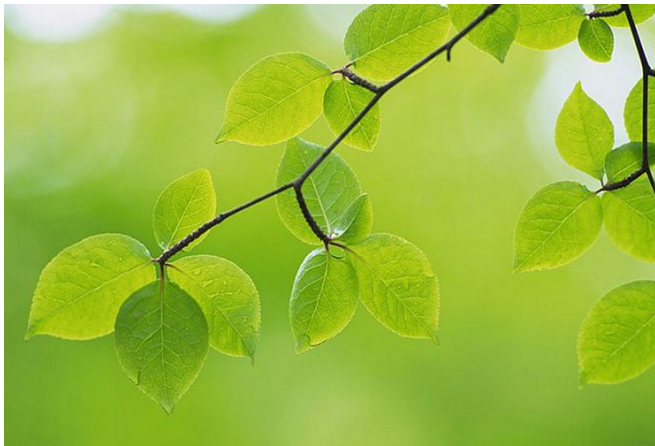
Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Our Recovered Sequence: Step 1



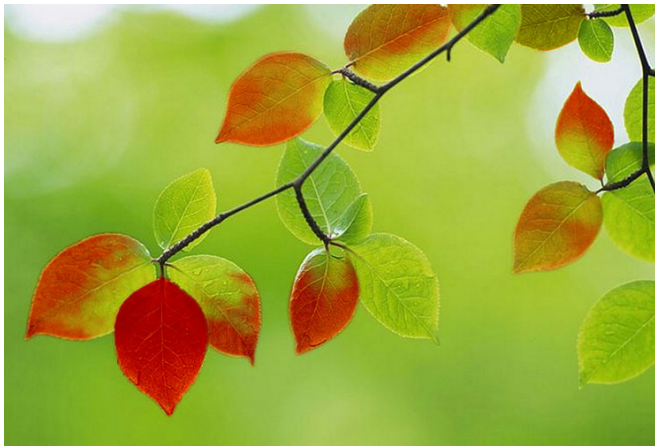
Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Example 7

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Artist Generated Sequence: Step 6



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Our Recovered Sequence: Step 6



Example 8

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Example 9

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Example 10

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Example 11

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Our Recovered Sequence: Step 6



Example 12

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Example 13

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3

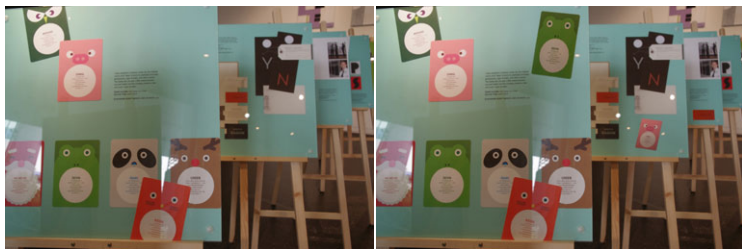


Our Recovered Sequence: Step 4



Example 14

Before-and-after image pair



Before-edit image

After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Example 15

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Artist Generated Sequence: Step 6



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Example 16

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Our Recovered Sequence: Step 6



Example 17

Before-and-after image pair



Before-edit image

After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Artist Generated Sequence: Step 6



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Our Recovered Sequence: Step 6



Example 18

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Example 19

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Artist Generated Sequence: Step 6



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Our Recovered Sequence: Step 6



Example 20

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Artist Generated Sequence: Step 6



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



Our Recovered Sequence: Step 6



Our Recovered Sequence: Step 7



Example 21

Before-and-after image pair



Before-edit image



After-edit image

Artist Generated Sequence: Step 1



Artist Generated Sequence: Step 2



Artist Generated Sequence: Step 3



Artist Generated Sequence: Step 4



Artist Generated Sequence: Step 5



Artist Generated Sequence: Step 6



Our Recovered Sequence: Step 1



Our Recovered Sequence: Step 2



Our Recovered Sequence: Step 3



Our Recovered Sequence: Step 4



Our Recovered Sequence: Step 5



In the table below, for each example, we give the number of participants judging as “artist’s is better”, “ours is better”, and “about equal”, respectively.

No.	artist's better	ours better	equal	No.	artist's better	ours better	equal
1	11	8	11	2	14	6	10
3	12	10	8	4	22	4	4
5	3	2	25	6	24	6	0
7	10	16	4	8	12	10	8
9	1	3	26	10	17	9	4
11	14	6	10	12	4	6	20
13	5	6	19	14	0	0	30
15	15	14	1	16	7	8	15
17	9	3	18	18	13	11	6
19	7	4	19	20	9	11	10
21	3	6	21				