



Project page

# Semi-supervised Parametric Real-world Image Harmonization

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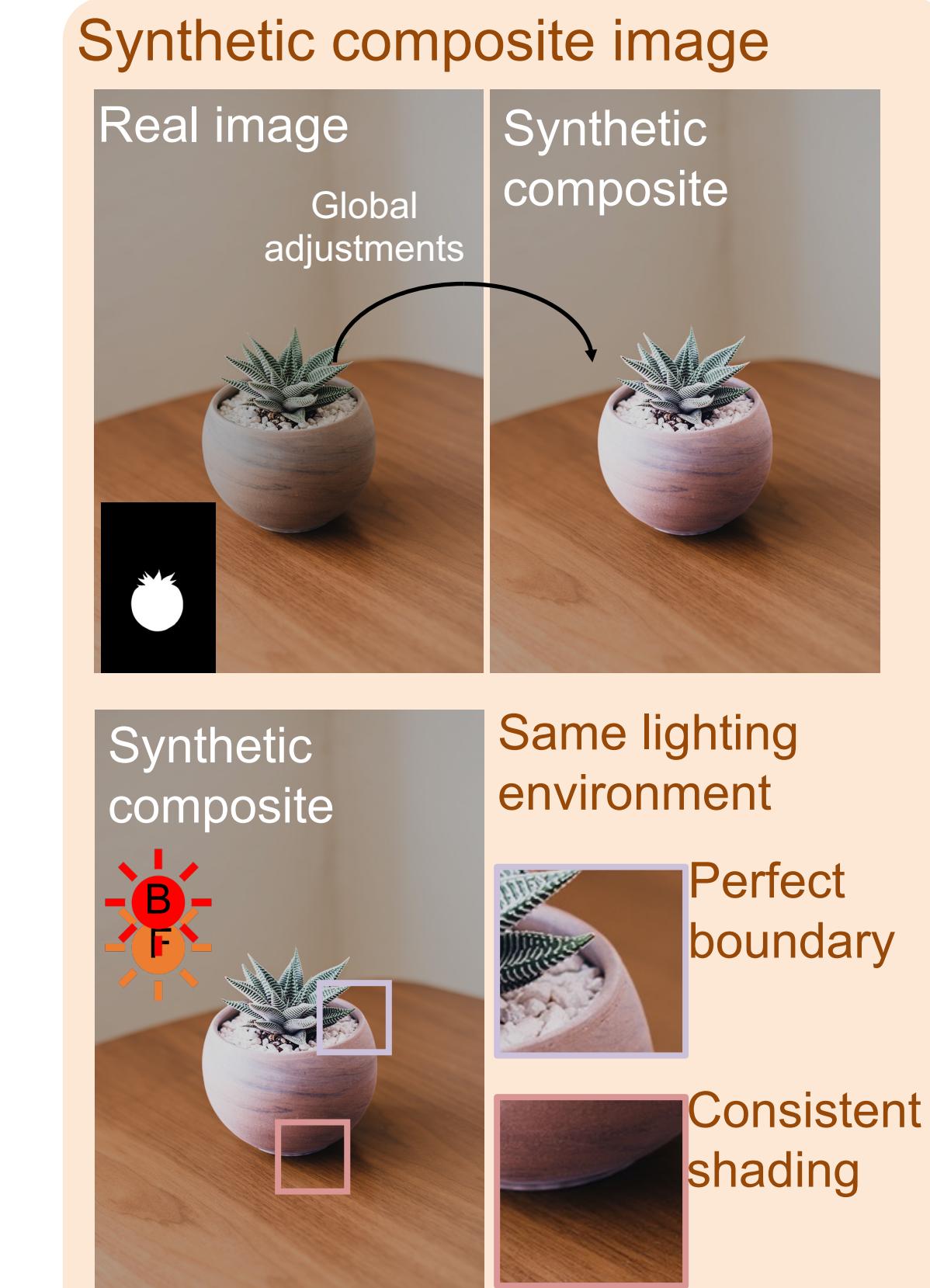
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Berkeley  
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## Domain gap in image harmonization

Existing approaches learn image harmonization with **synthetic composites**.

During Training



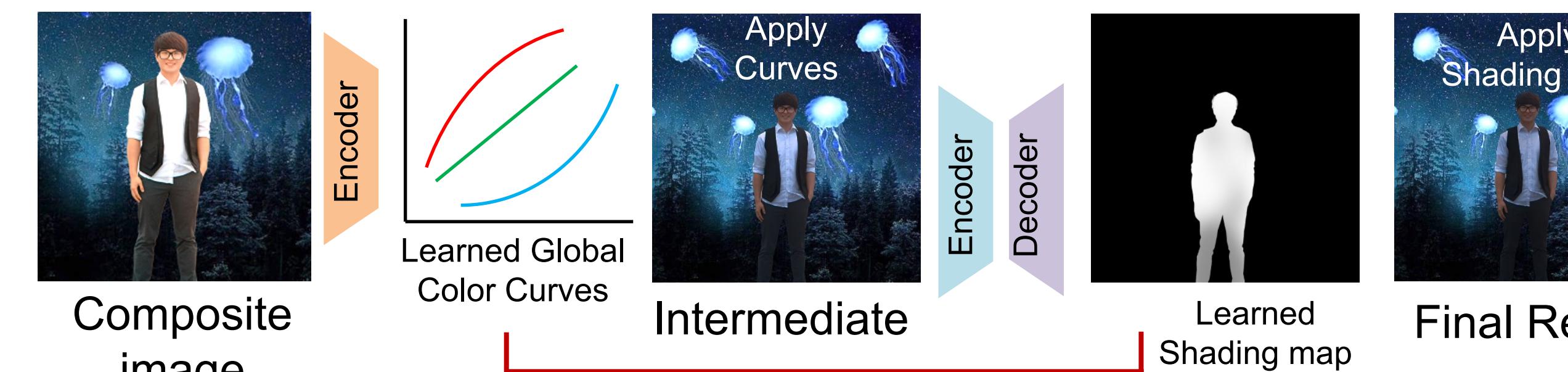
During Testing



### Our contributions:

- Bridge the domain gap through training on **real composites**.
- First approach modeling local effect through novel **shading map**.
- High-resolution image harmonization with **full parametric controls**.

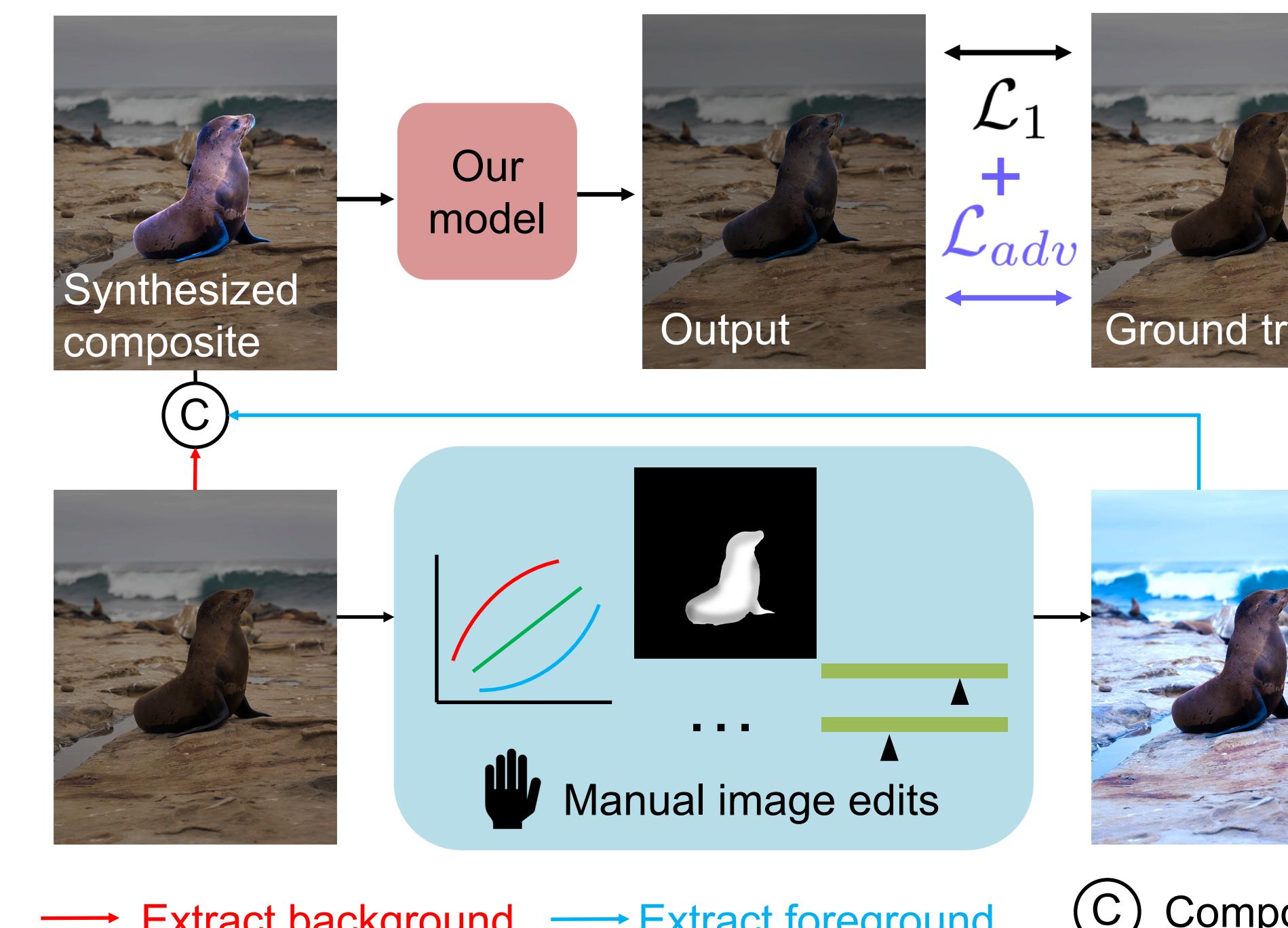
## High-resolution parametric model



Color curves and shading map can scale up to any resolution

## Dual-stream training on Artist-retouched dataset

Stream 1: Supervised training on *Artist-retouched* dataset



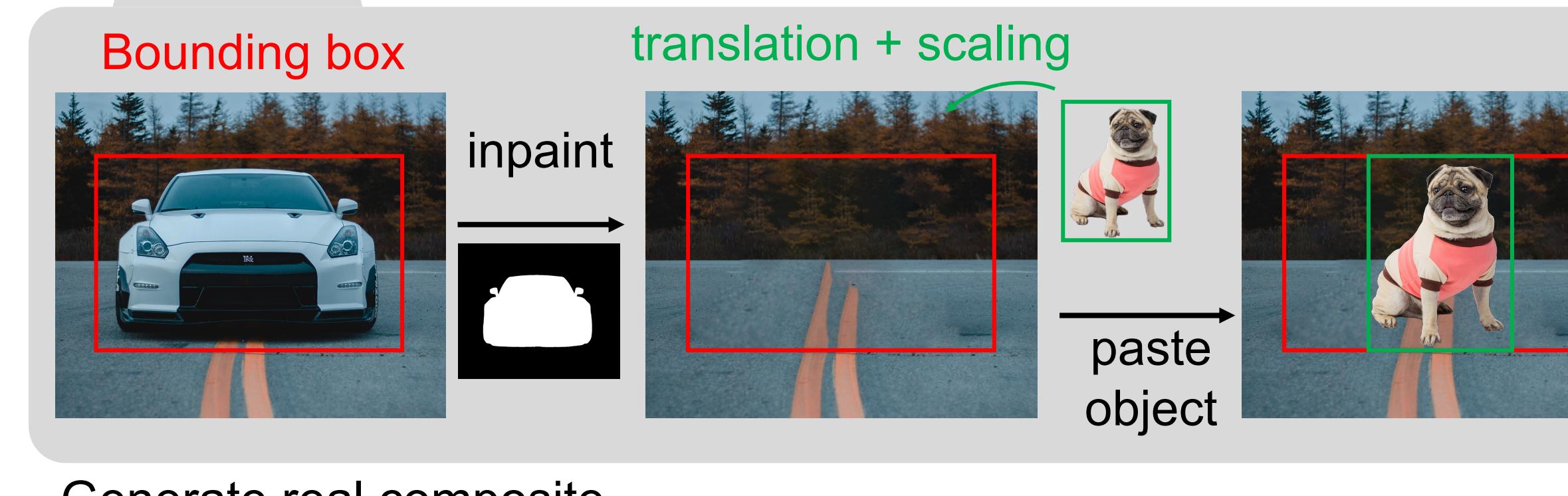
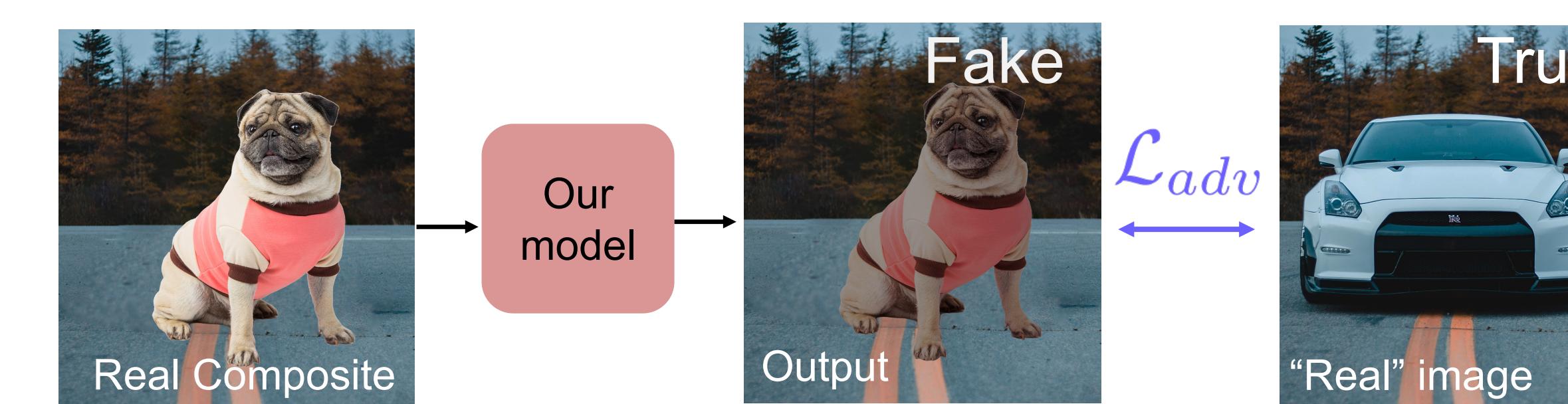
### Previous dataset

- Unrealistic adjustments X
- Only global adjustments X

### Artist-retouched dataset

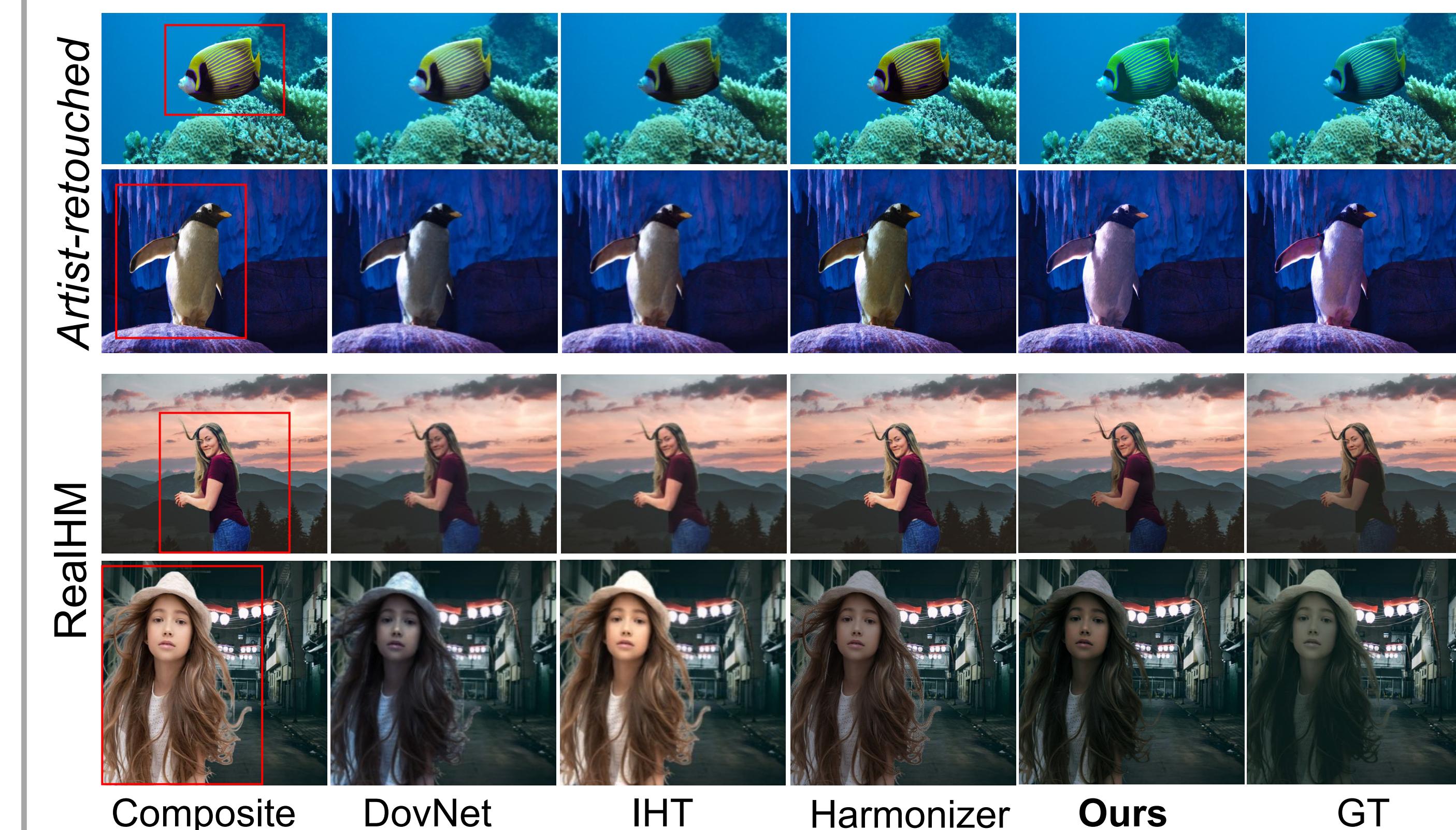
- Realistic human manual image adjustments.
- Editing with both global and local adjustments

Stream 2: Unsupervised training on **real composite images**



Stream 1 and 2 are equally sampled during our training process

## Image harmonization results



## Results of parametric controls

