Computational Photography Term Project

Animation Image Harmonization

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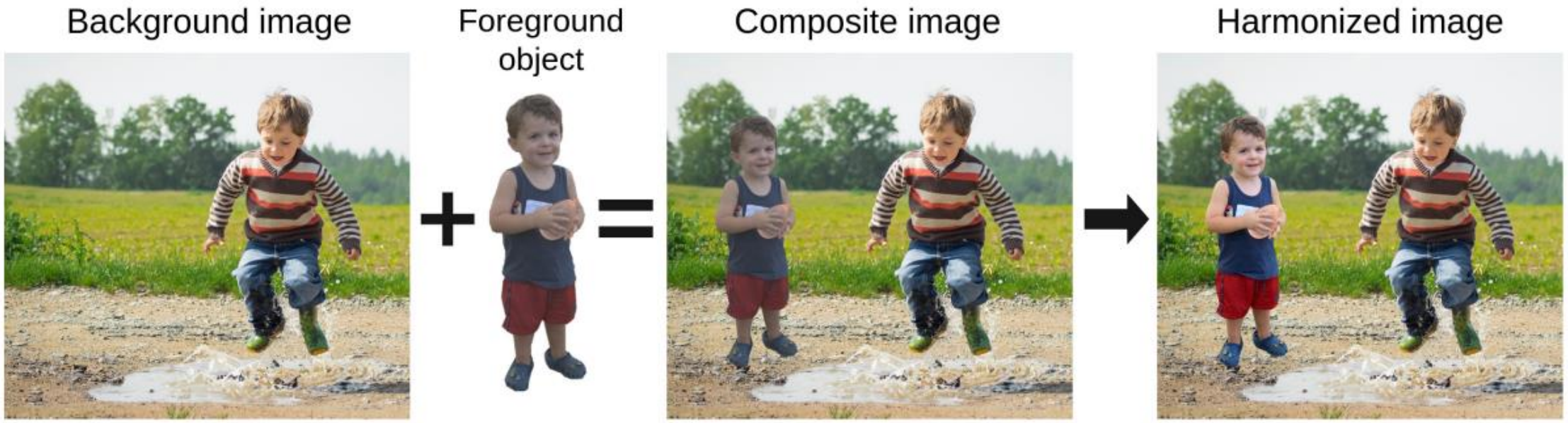
Outline

- Introduction & Motivation
- Related Work
- Framework
- Experiment
  - Assumption
  - Justification
- Result
- Conclusion

Introduction & Motivation

- Composited image harmonization



Introduction & Motivation

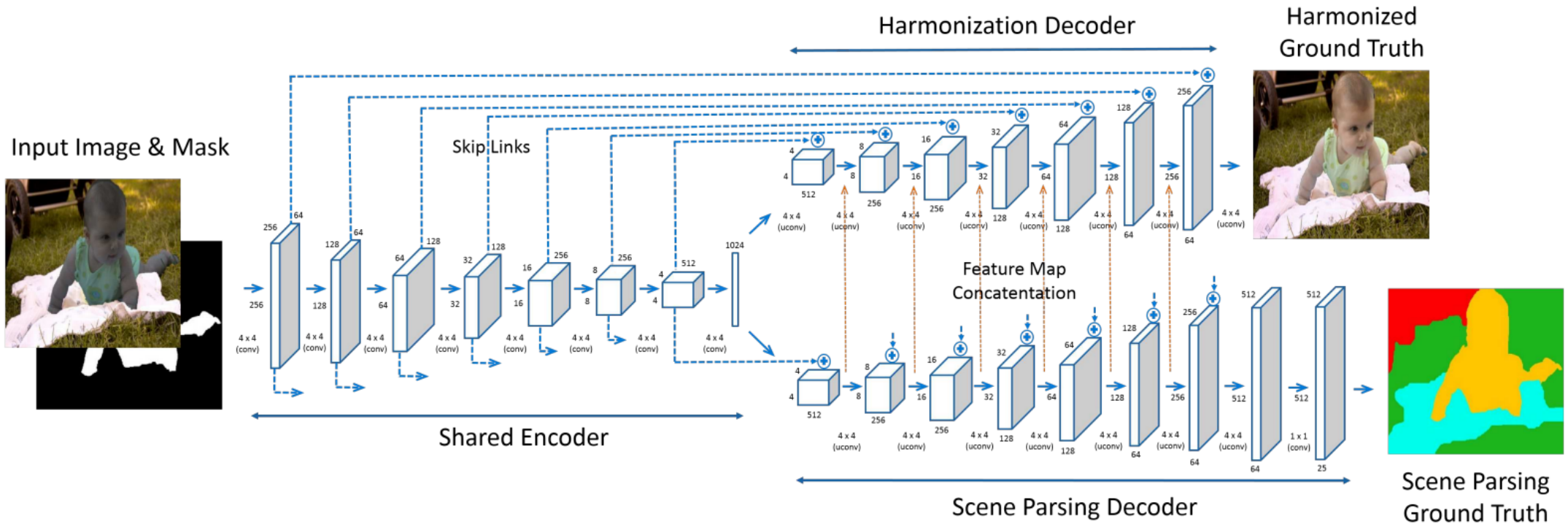
- The different between real-world image and animation image
  - Color of light source is more various in animation image
  - Color saturation

real-world image

animation image

Related Work

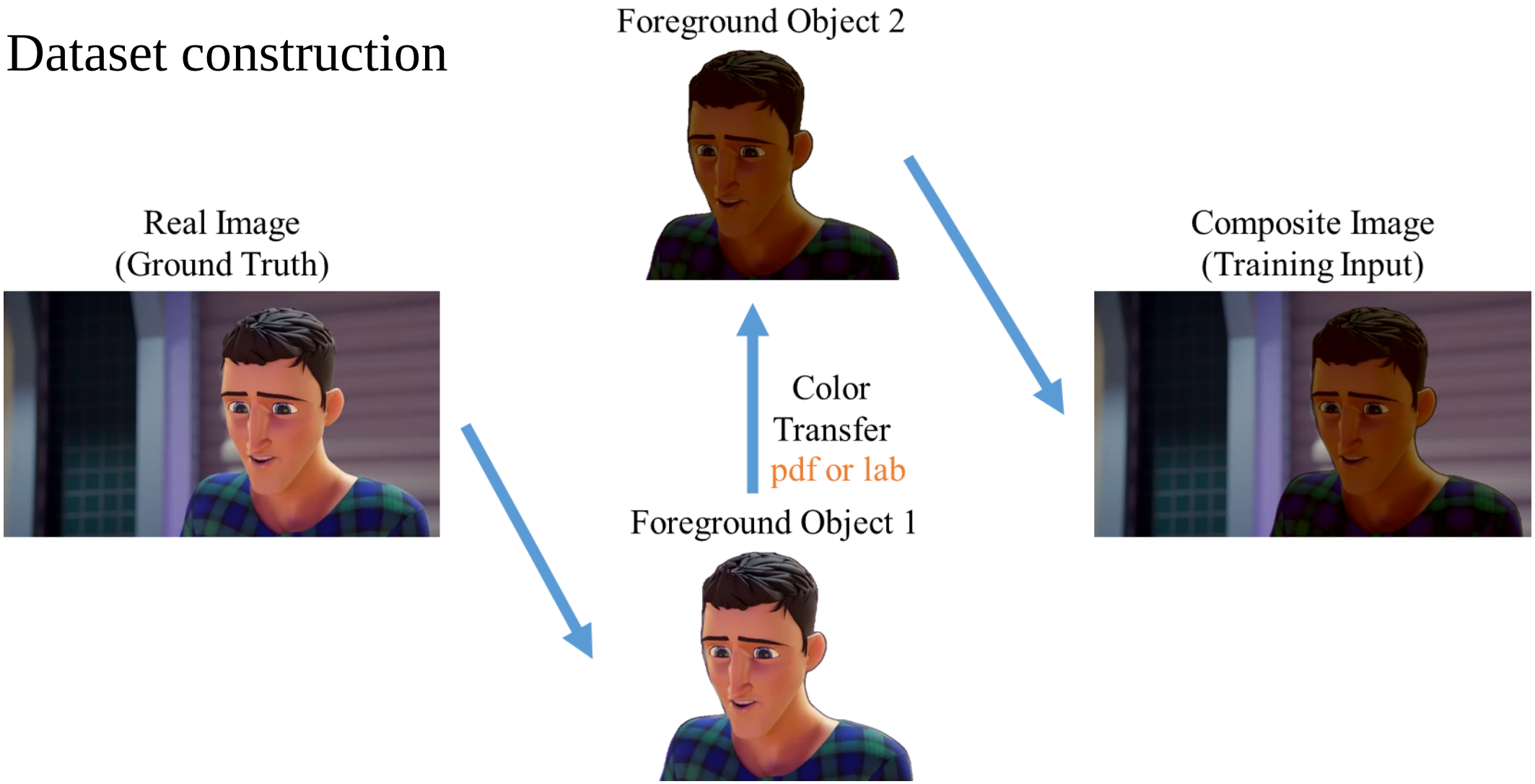
- Auto-encoder based structure



Source: Yi-Hsuan Tsai, “Deep Image Harmonization”, CVPR 2017

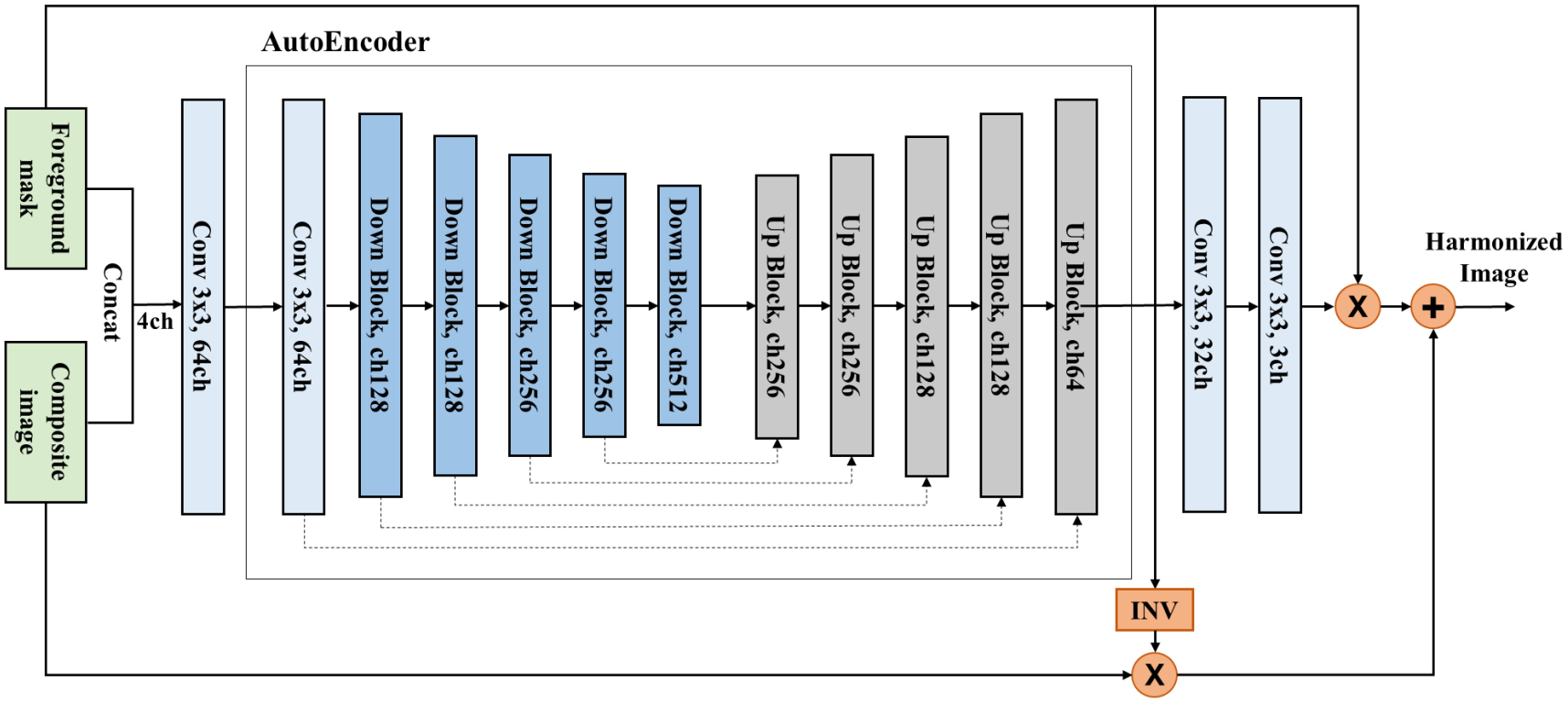
Framework

- Dataset construction



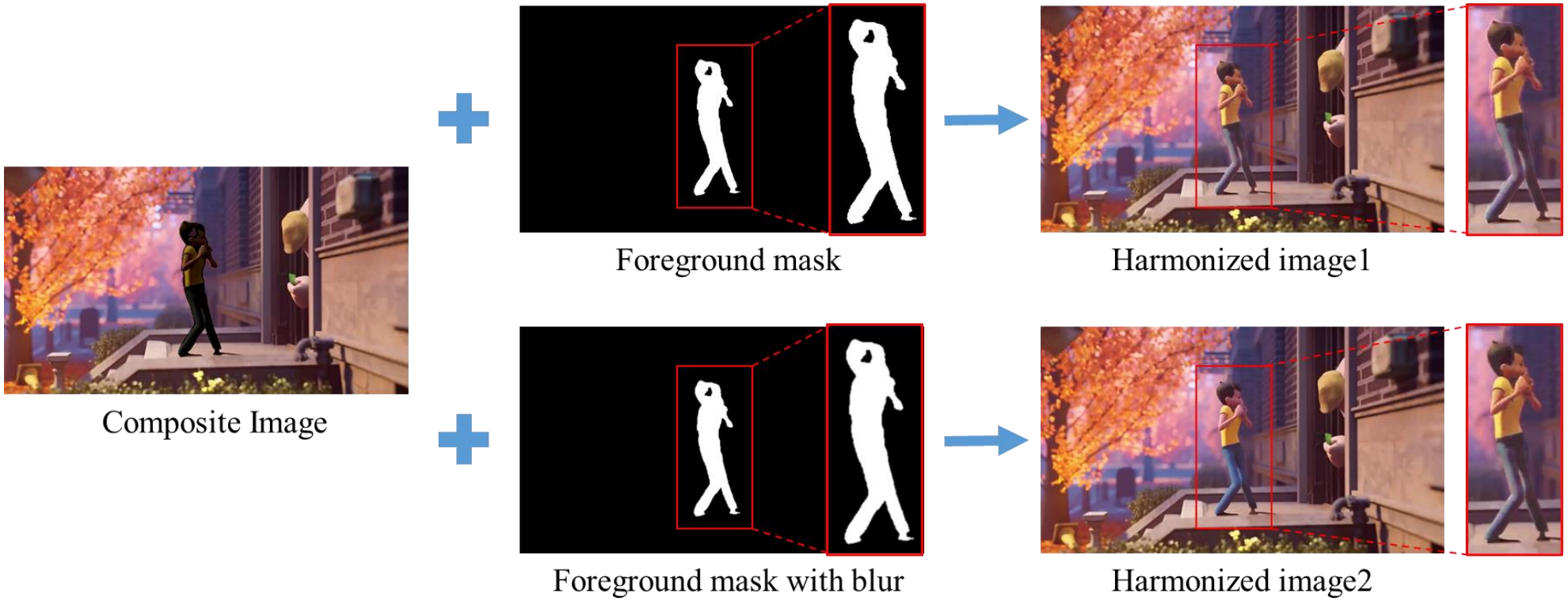
Framework

- Auto-encoder based model + mask



Experiment-1

- Assumption
  - Artifact around the edge
  - Hard mask → blurred soft mask
- Justification



Experiment-2

- Assumption
  - Patch size: 128 v.s. 256
  - Foreground object size
- Justification

Real image

Composite image

Small object result

Patchsize=(256, 256) result

Patchsize=(128, 128) result

Large object result

Result

	fMSE	MSE	PSNR	SSIM
Ours	62.17	11.83	35.83	0.9763
iSSAM	98.59	13.47	34.60	0.9547

Evaluation results on testing data

Composite image Ours iSSAM

Example results of ours and iSSAM work on our animation dataset.

Conclusion

- Construct animation dataset
- Find an appropriate use of model
- Demonstrate that property of animation and real-world image is quite different