Team 14

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01

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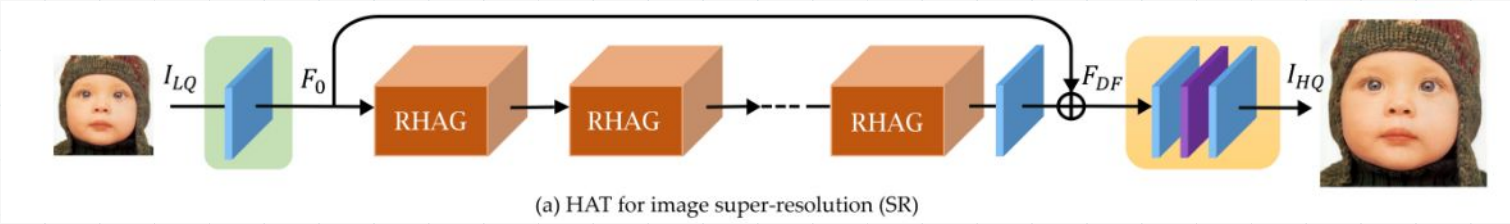
HAT: Hybrid Attention Transformer for Image Restoration



(a) HAT for image super-resolution (SR)

We use the pre-trained weight of HAT trained in GAN method, referred to as **HAT-GAN** in our approach.

HAT-GAN

03

For General cases

For General cases

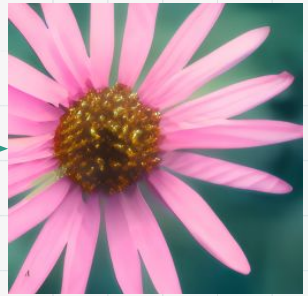
iterative

HAT-GAN X4

HAT-GAN X4

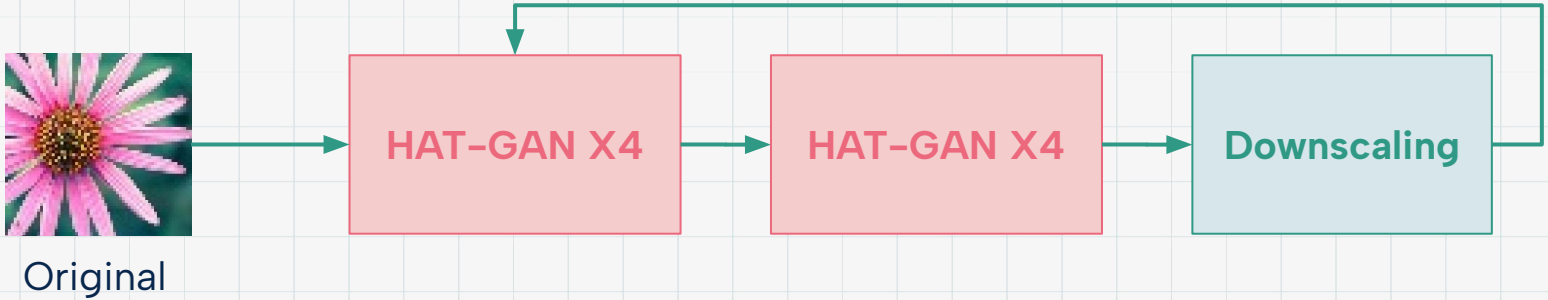
Downscaling

Histogram Specification At H channel

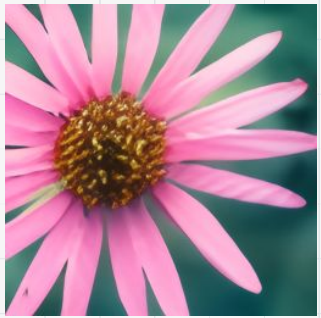


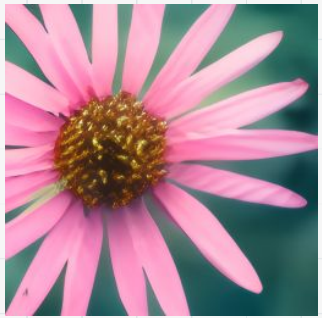
Result of 1st iteration

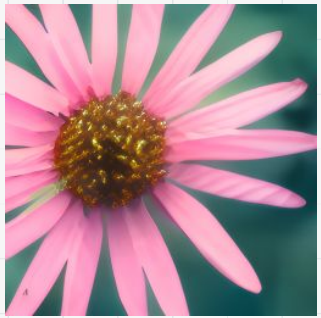
Initial Method

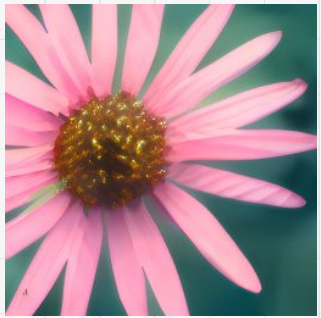


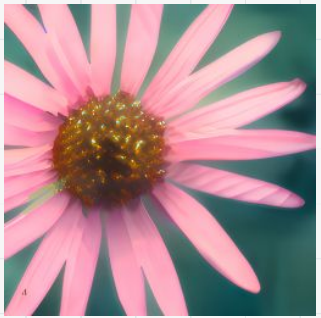
Results of Initial Method


Iteration 1


Iteration 2


Iteration 3


Iteration 4


Iteration 5

The details become increasingly clear.

But the contrast becomes smaller and smaller.

Improved Method

iterative

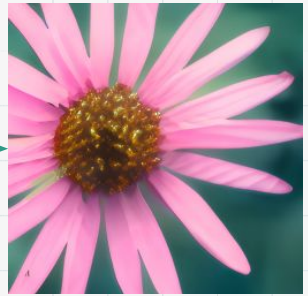
HAT-GAN X4

HAT-GAN X4

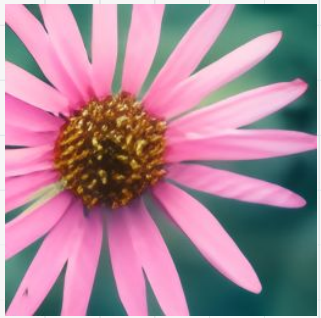
Downscaling

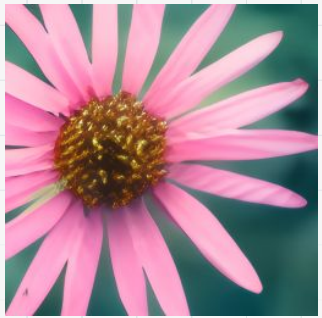
Histogram Specification At H channel

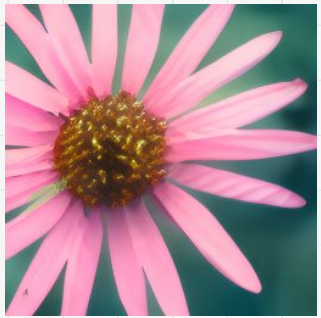
Result of 1st iteration

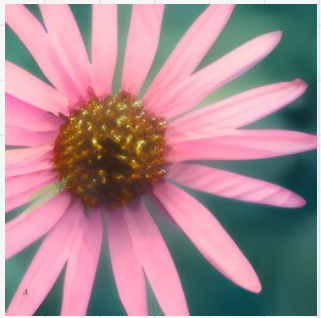


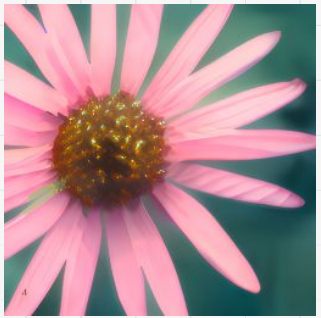
Result of Improved Method


Iteration 1

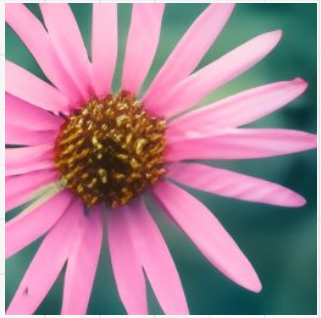

Iteration 2

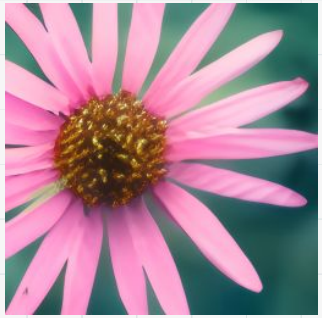

Iteration 3

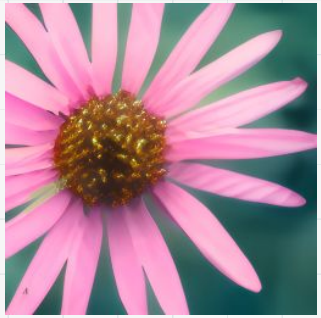

Iteration 4

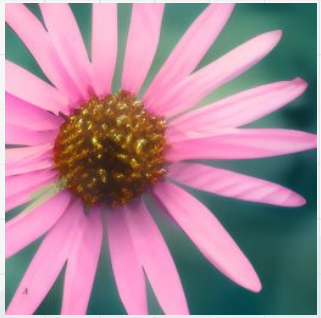

Iteration 5

With histogram specification ↓


Iteration 1

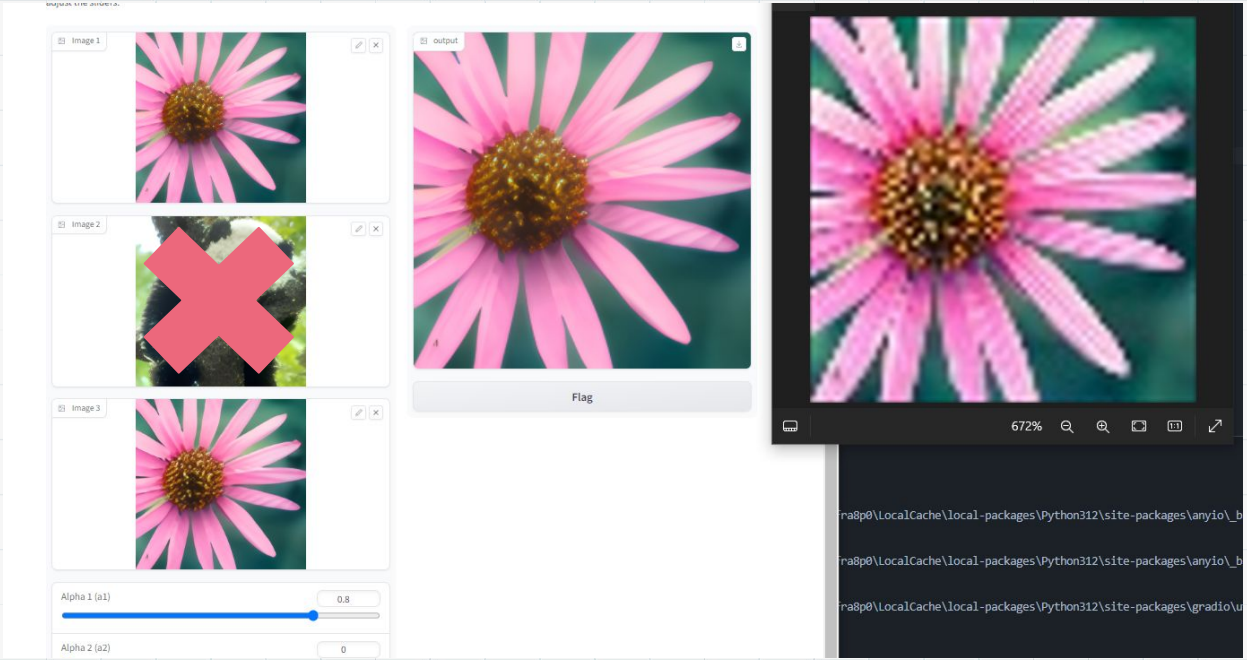

Iteration 2


Iteration 3


Iteration 4


Iteration 5

Blend images

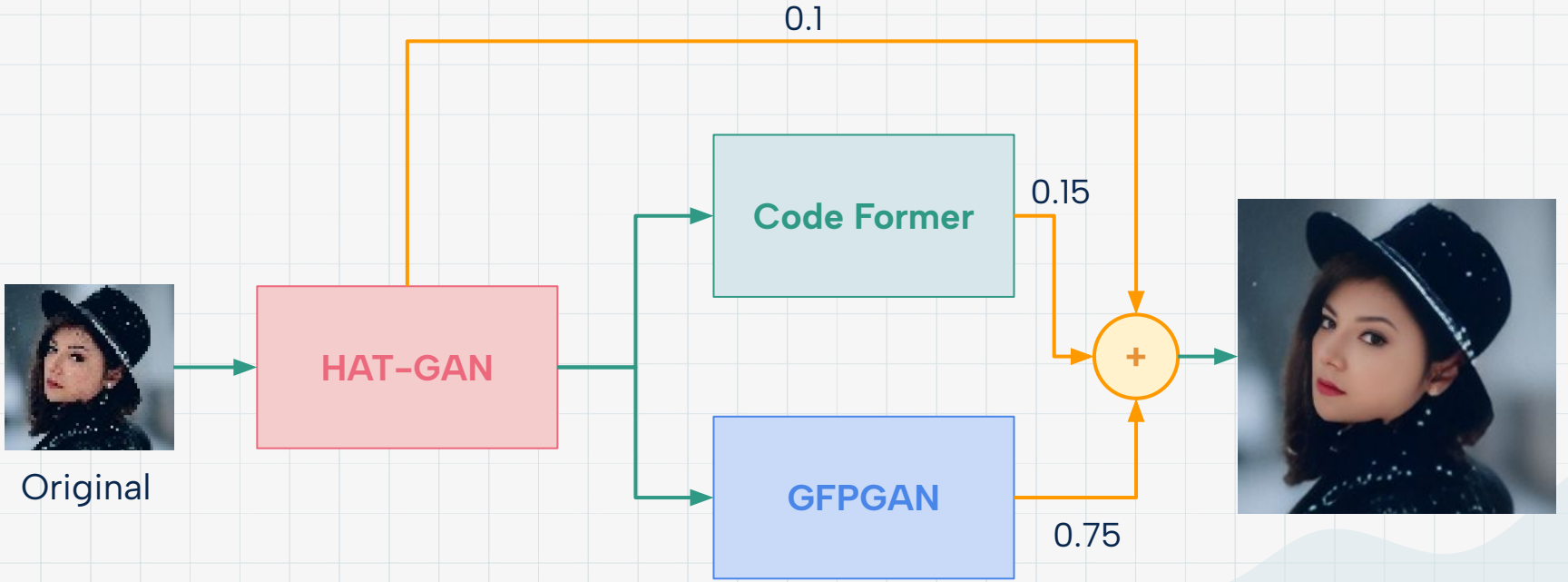


Iteration-5 X0.8 + Iteration-1 X0.2

04

For Human Faces

For Human Faces



HAT-GAN

Original

HAT-GAN

HAT-GAN x4

Face Restoration Model

HAT-GAN x4

Code Former

GFPGAN

Face Restoration Model

HAT-GAN x4

Code Former

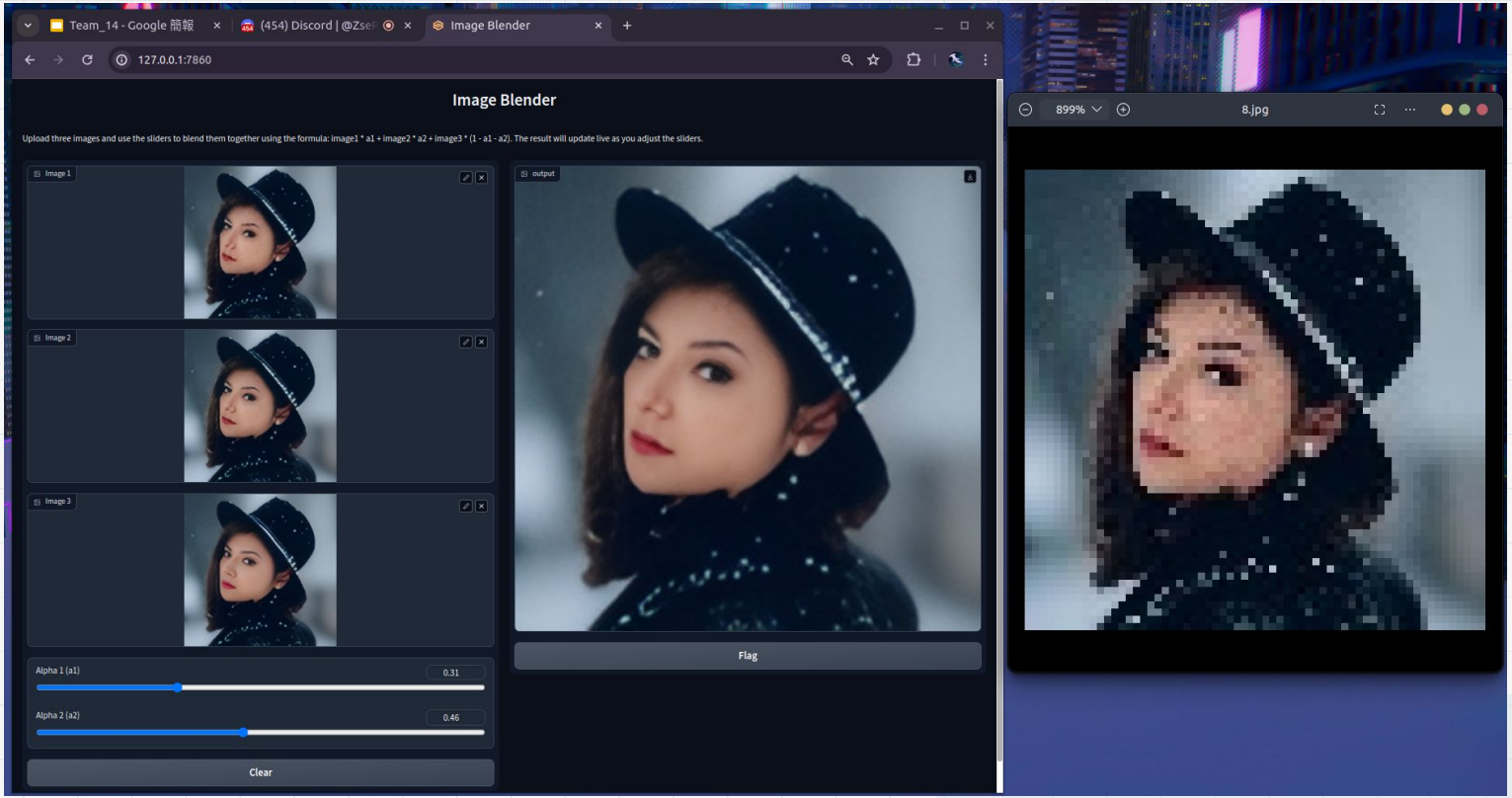
- More realistic

GFPGAN

- Closer to input

Blend Results

Blend 3 images



Final Results

HAT-GAN x0.1 + GFPGAN x0.15 + Code Former x0.75