Correct Pixel Value

How to install Python

- https://www.python.jp/install/anaconda/macos/install.html
- https://www.anaconda.com/distribution/

USAGE

```
$ python correct_pixel_value.py
==================================
    Correct Pixel Value
     author : Tomomasa Uchida
     date   : 2019/02/08
==================================

USAGE        : $ python correct_pixel_value.py [input_image_data]
[input_image_data(LR=1)]
Example      : $ python correct_pixel_value.py [input_image.bmp]
[input_image_LR1.bmp]]
```

Example

```
$ python correct_pixel_value.py hachimanyama_LR100.bmp
hachimanyama_LR1.bmp
==================================
    Correct Pixel Value
     author : Tomomasa Uchida
     date   : 2019/02/08
==================================

Input image data (args[1])       : hachimanyama_LR100.bmp
Input image data(LR=1) (args[2]) : hachimanyama_LR1.bmp
p_init                           : 1.0
p_interval                       : 0.01


==================================
 STEP1 : Get max pixel value (LR=1)
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Input image (RGB)                : (1024, 1024, 3)
N_all                            : 1048576 (pixels)
N_all_nonzero                    : 354746 (pixels)
Max pixel value (LR=1)           : 255 (pixel value)
Num. of max pixel value (LR=1)   : 537 (pixels)
Ratio of max pixel value (LR=1)  : 0.15 (%)
Most frequent pixel value (LR=1) : 80 (pixel value)
```

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 STEP2 : Search for standard pixel value (LR=1)
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Ratio of reference section      : 1.0 (%)
Standard pixel value (LR=1)     : 222 (pixel value)
Reference section               : 222 ~ 255 (pixel value)
Ratio of reference section      : 1.02 (%)



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 STEP3 : Correct pixel value
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p_final                         : 3.57
Ratio of num. of pixels to 255  : 0.16 (%)
```
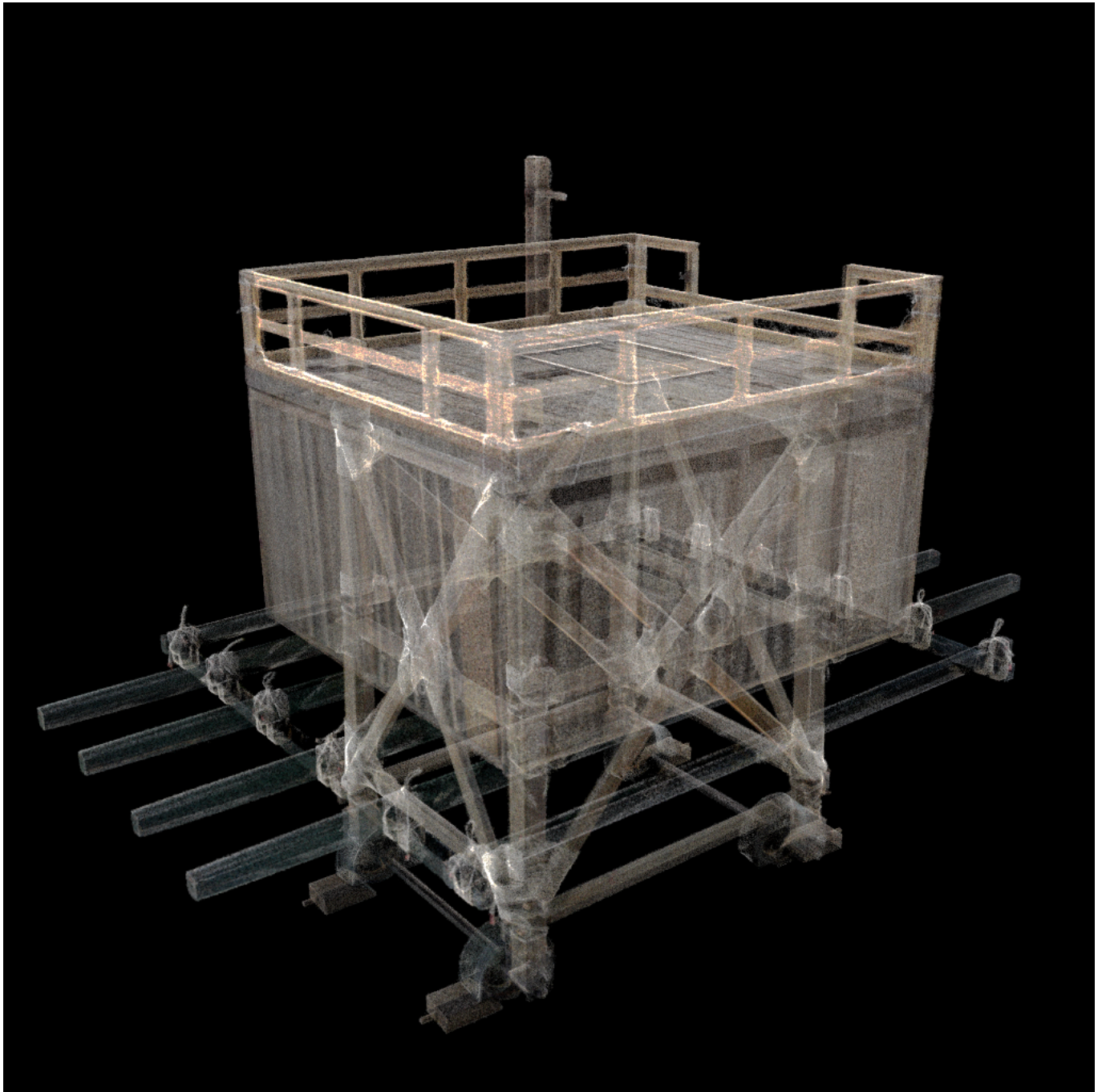
Image

Input image

Input image (LR=1)

Corrected image

Figure

Input image ($L_R = 1$)

Input image

Corrected image

Histogram (Input image ($L_R = 1$))

Histogram (Input image)

Histogram (Corrected image)