EE239A Problem Set 1 YAMAN YUCEL

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1 ECE 239AS: Problem Set #1

This problem set will revisit the imaging pipeline, denoising, and HDR imaging from the corresponding lectures and textbook sections. The goal is to develop a working understanding of the digital image formation model that is central to most modern day imaging devices. This will be important in later course material when we discuss extreme imaging systems that. With that goal in mind, the organization of this notebook is split into three problems:

- 1. Imaging Pipeline
- 2. Denoising
- 3. High Dynamic Range Imaging

These three steps are a key part of the digital photography pipeline.

1.1 How to Implement

Sections of code you need to write are marked with:

** STUDENT CODE HERE ** and have function names beginning with "student_". After the key student functions, we will include a call to a function named "check_code_correctness" which will evaluate your output against an output from the TAs.

NOTE: This will only check for correctness if you use the exact algorithm we do. We **highly encourage** you to explore new algorithms not covered in class, but these cannot be sanity checked by our code.

```
[1]: !pip install rawpy
!pip install imageio
!pip install gdown

Collecting rawpy
Downloading
rawpy-0.18.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (1.9 MB)
1.9/1.9 MB

10.0 MB/s eta 0:00:00
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (from rawpy) (1.23.5)
Installing collected packages: rawpy
Successfully installed rawpy-0.18.1
Requirement already satisfied: imageio in /usr/local/lib/python3.10/dist-packages (2.31.5)
```

```
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages
    (from imageio) (1.23.5)
    Requirement already satisfied: pillow>=8.3.2 in /usr/local/lib/python3.10/dist-
    packages (from imageio) (9.4.0)
    Requirement already satisfied: gdown in /usr/local/lib/python3.10/dist-packages
    (4.6.6)
    Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-
    packages (from gdown) (3.12.4)
    Requirement already satisfied: requests[socks] in
    /usr/local/lib/python3.10/dist-packages (from gdown) (2.31.0)
    Requirement already satisfied: six in /usr/local/lib/python3.10/dist-packages
    (from gdown) (1.16.0)
    Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-packages
    (from gdown) (4.66.1)
    Requirement already satisfied: beautifulsoup4 in /usr/local/lib/python3.10/dist-
    packages (from gdown) (4.11.2)
    Requirement already satisfied: soupsieve>1.2 in /usr/local/lib/python3.10/dist-
    packages (from beautifulsoup4->gdown) (2.5)
    Requirement already satisfied: charset-normalizer<4,>=2 in
    /usr/local/lib/python3.10/dist-packages (from requests[socks]->gdown) (3.3.0)
    Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-
    packages (from requests[socks]->gdown) (3.4)
    Requirement already satisfied: urllib3<3,>=1.21.1 in
    /usr/local/lib/python3.10/dist-packages (from requests[socks]->gdown) (2.0.6)
    Requirement already satisfied: certifi>=2017.4.17 in
    /usr/local/lib/python3.10/dist-packages (from requests[socks]->gdown)
    (2023.7.22)
    Requirement already satisfied: PySocks!=1.5.7,>=1.5.6 in
    /usr/local/lib/python3.10/dist-packages (from requests[socks]->gdown) (1.7.1)
[2]: # Imports
     import numpy as np
     from PIL import Image
     import matplotlib.pyplot as plt
     import rawpy
     import json
     import scipy
     import imageio.v3 as iio
     %matplotlib inline
[3]: def check_code_correctness(test_function, test_in, test_out):
         """Checks if the given function behaves as expected
        Args:
           test_function: Function to test
           test_in: The sample input to test on
           test_out: The expected output of the function given the specified input
```

```
Returns:
           True if the function behaves as expected, False otherwise (wrong answer_
      ⇔or error)
         11 11 11
         try:
           student_out = test_function(test_in)
         except NotImplementedError as err:
           print("Please implement and remove \'raise NotImplementedError\' ")
           return False
         except RuntimeError as err:
           print("Please make sure you have the right dimensions and type")
           return False
         except:
           print("An exception occurred: could not compute output")
           return False
         try:
             if not( np.allclose( student out, test out) ):
                 print("Test failed, student output does not match test output")
                 return False
         except TypeError as err:
             print("Please make sure your function outputs the correct type")
             return False
         except:
             print("An exception occurred: could not check output")
             return False
         return True
[4]: # Get relevant data -- see references below for sources
     !wget http://storage.googleapis.com/gresearch/refraw360/raw.zip
     unzip raw.zip
     !wget https://www.pauldebevec.com/Research/HDR/SourceImages/
      →Memorial_SourceImages.zip
     !mkdir hdr
     !unzip Memorial_SourceImages.zip -d hdr
     gdown https://drive.google.com/uc?id=1bGF1FUdeVThzXSLQn0J3PVUxtpt4tRua
     unzip sol.zip!
    --2023-10-19 02:56:37--
    http://storage.googleapis.com/gresearch/refraw360/raw.zip
    Resolving storage.googleapis.com (storage.googleapis.com)... 172.253.117.207,
    142.250.99.207, 142.250.107.207, ...
```

```
Connecting to storage.googleapis.com
(storage.googleapis.com) | 172.253.117.207 | :80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 20483316803 (19G) [application/zip]
Saving to: 'raw.zip'
raw.zip
                   172MB/s
                                                                   in 2m 26s
2023-10-19 02:59:04 (133 MB/s) - 'raw.zip' saved [20483316803/20483316803]
Archive: raw.zip
   creating: rawnerf/
   creating: rawnerf/scenes/
   creating: rawnerf/scenes/bikes/
   creating: rawnerf/scenes/bikes/raw/
  inflating: rawnerf/scenes/bikes/raw/IMG_3384.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3354.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3379.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3361.dng
  inflating: rawnerf/scenes/bikes/raw/IMG 3396.dng
  inflating: rawnerf/scenes/bikes/raw/IMG 3378.json
  inflating: rawnerf/scenes/bikes/raw/IMG 3359.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3353.json
  inflating: rawnerf/scenes/bikes/raw/IMG 3389.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3362.dng
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  inflating: rawnerf/scenes/bikes/raw/IMG_3371.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3381.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3357.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3386.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3376.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3358.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3381.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3387.dng
  inflating: rawnerf/scenes/bikes/raw/IMG 3385.dng
  inflating: rawnerf/scenes/bikes/raw/IMG 3357.json
  inflating: rawnerf/scenes/bikes/raw/IMG 3377.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3374.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3371.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3368.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3388.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3383.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3386.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3394.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3363.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3370.json
  inflating: rawnerf/scenes/bikes/raw/IMG_3372.dng
  inflating: rawnerf/scenes/bikes/raw/IMG_3393.json
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inflating: rawnerf/scenes/bikes/raw/IMG_3385.json
inflating: rawnerf/scenes/bikes/raw/IMG_3389.json
inflating: rawnerf/scenes/bikes/raw/IMG_3390.dng
inflating: rawnerf/scenes/bikes/raw/IMG_3370.dng
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inflating: rawnerf/scenes/bikes/sparse/0/cameras.bin
inflating: rawnerf/scenes/bikes/sparse/0/project.ini
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inflating: rawnerf/scenes/sharpshadow/raw/IMG 7149.dng
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7130.json
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7136.json
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7150.json
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7149.json
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inflating: rawnerf/scenes/sharpshadow/raw/IMG_7127.json
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7143.json
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7145.dng
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7151.json
inflating: rawnerf/scenes/sharpshadow/raw/IMG_7123.dng
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creating: rawnerf/scenes/sharpshadow/sparse/0/
inflating: rawnerf/scenes/sharpshadow/sparse/0/points3D.bin
inflating: rawnerf/scenes/sharpshadow/sparse/0/images.bin
inflating: rawnerf/scenes/sharpshadow/sparse/0/cameras.bin
inflating: rawnerf/scenes/sharpshadow/sparse/0/project.ini
creating: rawnerf/scenes/sharpshadow/images/
inflating: rawnerf/scenes/sharpshadow/images/IMG_7133.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7146.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7134.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7124.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7126.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7132.JPG
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inflating: rawnerf/scenes/sharpshadow/images/IMG_7148.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7152.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7155.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG 7140.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG 7143.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG 7150.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7142.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7125.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7129.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7141.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7147.JPG
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inflating: rawnerf/scenes/sharpshadow/images/IMG_7136.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7123.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7122.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7131.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7139.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG 7151.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG 7120.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG 7144.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7128.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7154.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7145.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7130.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7137.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7153.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7135.JPG
inflating: rawnerf/scenes/sharpshadow/images/IMG_7138.JPG
inflating: rawnerf/scenes/sharpshadow/colmap_output.txt
creating: rawnerf/scenes/sharpshadow/test_preds/
inflating: rawnerf/scenes/sharpshadow/test_preds/color_000.png
```

```
inflating: rawnerf/scenes/sharpshadow/test_preds/color_003.png
inflating: rawnerf/scenes/sharpshadow/test_preds/color_001.png
inflating: rawnerf/scenes/sharpshadow/test_preds/color_002.png
inflating: rawnerf/scenes/sharpshadow/test_preds/color_004.png
inflating: rawnerf/scenes/sharpshadow/database.db
creating: rawnerf/scenes/candlefiat/
creating: rawnerf/scenes/candlefiat/raw/
inflating: rawnerf/scenes/candlefiat/raw/IMG_7289.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7313.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7307.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7296.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7317.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7284.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7314.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7304.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7320.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7280.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7323.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7325.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7299.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7283.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7287.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7309.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7282.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7298.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7320.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7299.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7306.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7292.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7319.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7302.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7312.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7293.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7290.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7312.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7295.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7294.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7297.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7308.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7285.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7318.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7293.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7289.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7313.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7308.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7303.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7302.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7322.json
```

```
inflating: rawnerf/scenes/candlefiat/raw/IMG_7288.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7301.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7287.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7329.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7328.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7301.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7294.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7323.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7326.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7321.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7300.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7292.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7324.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7309.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7330.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7303.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7310.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7280.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7316.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7316.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7325.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7281.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7298.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7329.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7282.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7296.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7328.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7297.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7331.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7330.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7283.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7322.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7291.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7327.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7285.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7284.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7300.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7304.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7291.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7295.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7319.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7281.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7288.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7324.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7290.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7331.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7311.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7318.json
```

```
inflating: rawnerf/scenes/candlefiat/raw/IMG_7311.json
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inflating: rawnerf/scenes/candlefiat/raw/IMG_7286.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7306.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7305.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7310.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG 7315.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7286.json
inflating: rawnerf/scenes/candlefiat/raw/IMG 7317.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7321.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7326.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7305.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7315.dng
inflating: rawnerf/scenes/candlefiat/raw/IMG_7314.json
inflating: rawnerf/scenes/candlefiat/raw/IMG_7327.json
inflating: rawnerf/scenes/candlefiat/poses_bounds.npy
creating: rawnerf/scenes/candlefiat/sparse/
creating: rawnerf/scenes/candlefiat/sparse/0/
inflating: rawnerf/scenes/candlefiat/sparse/0/points3D.bin
inflating: rawnerf/scenes/candlefiat/sparse/0/images.bin
inflating: rawnerf/scenes/candlefiat/sparse/0/cameras.bin
inflating: rawnerf/scenes/candlefiat/sparse/0/project.ini
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inflating: rawnerf/scenes/candlefiat/images/IMG_7305.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7312.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7313.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7307.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7317.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7303.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7286.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7291.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7287.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7288.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7299.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7316.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7284.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7325.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7294.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7327.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7308.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7326.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7301.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7309.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7323.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7281.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7292.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7290.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7321.JPG
```

```
inflating: rawnerf/scenes/candlefiat/images/IMG_7328.JPG
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inflating: rawnerf/scenes/candlefiat/images/IMG_7302.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7311.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7324.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7283.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7319.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7300.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7315.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7285.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7297.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7298.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7310.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7331.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7295.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7280.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7314.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7304.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7293.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7330.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7306.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7322.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7318.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG 7329.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7320.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7282.JPG
inflating: rawnerf/scenes/candlefiat/images/IMG_7289.JPG
inflating: rawnerf/scenes/candlefiat/colmap_output.txt
creating: rawnerf/scenes/candlefiat/test_preds/
inflating: rawnerf/scenes/candlefiat/test_preds/color_000.png
inflating: rawnerf/scenes/candlefiat/test_preds/color_003.png
inflating: rawnerf/scenes/candlefiat/test_preds/color_006.png
inflating: rawnerf/scenes/candlefiat/test_preds/color_001.png
inflating: rawnerf/scenes/candlefiat/test_preds/color_002.png
inflating: rawnerf/scenes/candlefiat/test preds/color 005.png
inflating: rawnerf/scenes/candlefiat/test_preds/color_004.png
inflating: rawnerf/scenes/candlefiat/database.db
creating: rawnerf/scenes/parkstatue/
creating: rawnerf/scenes/parkstatue/raw/
inflating: rawnerf/scenes/parkstatue/raw/IMG_5617.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5608.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5592.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5622.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5610.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5586.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5582.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5604.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5579.dng
```

```
inflating: rawnerf/scenes/parkstatue/raw/IMG_5595.json
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inflating: rawnerf/scenes/parkstatue/raw/IMG_5619.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5613.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5621.dng
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inflating: rawnerf/scenes/parkstatue/raw/IMG 5614.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5617.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5585.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5579.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5600.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5615.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5612.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5578.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5620.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5580.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5594.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5588.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5580.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5621.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5616.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5620.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5609.dng
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inflating: rawnerf/scenes/parkstatue/raw/IMG_5583.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5593.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5625.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5605.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5584.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5591.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5607.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5592.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5612.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5602.json
inflating: rawnerf/scenes/parkstatue/raw/IMG 5581.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5594.json
inflating: rawnerf/scenes/parkstatue/raw/IMG 5609.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5586.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5601.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5576.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5597.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5585.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5583.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5584.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5589.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5600.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5603.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5596.dng
```

```
inflating: rawnerf/scenes/parkstatue/raw/IMG_5575.json
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inflating: rawnerf/scenes/parkstatue/raw/IMG_5606.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5599.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5599.json
inflating: rawnerf/scenes/parkstatue/raw/IMG 5624.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5615.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5588.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5623.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5577.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5607.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5603.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5619.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5605.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5598.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5622.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5587.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5596.json
inflating: rawnerf/scenes/parkstatue/raw/IMG 5595.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5597.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5611.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5608.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5610.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5602.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5593.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5590.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5589.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5581.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5587.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5624.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5578.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5613.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5618.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5575.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5611.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG 5604.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5591.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5598.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5606.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5625.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5577.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5582.json
inflating: rawnerf/scenes/parkstatue/raw/IMG_5601.dng
inflating: rawnerf/scenes/parkstatue/raw/IMG_5616.json
inflating: rawnerf/scenes/parkstatue/poses_bounds.npy
creating: rawnerf/scenes/parkstatue/sparse/
creating: rawnerf/scenes/parkstatue/sparse/0/
```

```
inflating: rawnerf/scenes/parkstatue/sparse/0/points3D.bin
inflating: rawnerf/scenes/parkstatue/sparse/0/images.bin
inflating: rawnerf/scenes/parkstatue/sparse/0/cameras.bin
inflating: rawnerf/scenes/parkstatue/sparse/0/project.ini
creating: rawnerf/scenes/parkstatue/images/
inflating: rawnerf/scenes/parkstatue/images/IMG_5584.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5600.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5583.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5588.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5592.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5575.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5618.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5620.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5607.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5577.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5625.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5623.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5594.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5609.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5597.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5619.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5582.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5581.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5591.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5617.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5603.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5593.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5612.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5595.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5605.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5608.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5624.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5602.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5580.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5587.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5611.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5614.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5586.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5616.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5604.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5578.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5585.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5579.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5601.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5606.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5615.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5598.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5622.JPG
```

```
inflating: rawnerf/scenes/parkstatue/images/IMG_5610.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5589.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5599.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5621.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5576.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5613.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG 5596.JPG
inflating: rawnerf/scenes/parkstatue/images/IMG_5590.JPG
inflating: rawnerf/scenes/parkstatue/colmap_output.txt
creating: rawnerf/scenes/parkstatue/test_preds/
inflating: rawnerf/scenes/parkstatue/test_preds/color_000.png
inflating: rawnerf/scenes/parkstatue/test_preds/color_003.png
inflating: rawnerf/scenes/parkstatue/test_preds/color_006.png
inflating: rawnerf/scenes/parkstatue/test_preds/color_001.png
inflating: rawnerf/scenes/parkstatue/test_preds/color_002.png
inflating: rawnerf/scenes/parkstatue/test_preds/color_005.png
inflating: rawnerf/scenes/parkstatue/test_preds/color_004.png
inflating: rawnerf/scenes/parkstatue/database.db
creating: rawnerf/scenes/nightstreet/
creating: rawnerf/scenes/nightstreet/raw/
inflating: rawnerf/scenes/nightstreet/raw/IMG_3106.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3114.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3121.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3142.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3108.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3130.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3132.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3119.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3153.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3115.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3135.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3112.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3113.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3110.json
inflating: rawnerf/scenes/nightstreet/raw/IMG 3118.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3124.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG 3115.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3143.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3134.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3137.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3136.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3145.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3121.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3130.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3151.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3107.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3146.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3150.dng
```

```
inflating: rawnerf/scenes/nightstreet/raw/IMG_3146.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3140.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3131.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3150.json
inflating: rawnerf/scenes/nightstreet/raw/IMG 3120.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3129.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3153.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3149.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3107.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3105.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3120.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3125.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3122.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3106.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3109.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3129.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3113.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3116.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3144.json
inflating: rawnerf/scenes/nightstreet/raw/IMG 3139.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3133.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3111.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3144.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3134.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3143.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3109.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3117.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3125.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3148.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3112.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3124.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3152.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3140.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3135.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG 3128.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3147.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3117.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3118.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3123.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3148.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3138.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3149.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3139.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3147.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3138.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3145.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3151.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3141.json
```

```
inflating: rawnerf/scenes/nightstreet/raw/IMG_3132.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3137.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3127.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3110.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG 3119.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3141.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG 3116.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3122.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3131.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3128.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3123.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3127.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3142.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3133.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3108.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3152.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3126.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3105.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG_3114.dng
inflating: rawnerf/scenes/nightstreet/raw/IMG 3126.json
inflating: rawnerf/scenes/nightstreet/raw/IMG_3136.json
inflating: rawnerf/scenes/nightstreet/raw/IMG 3111.json
inflating: rawnerf/scenes/nightstreet/poses_bounds.npy
creating: rawnerf/scenes/nightstreet/sparse/
creating: rawnerf/scenes/nightstreet/sparse/0/
inflating: rawnerf/scenes/nightstreet/sparse/0/points3D.bin
inflating: rawnerf/scenes/nightstreet/sparse/0/images.bin
inflating: rawnerf/scenes/nightstreet/sparse/0/cameras.bin
inflating: rawnerf/scenes/nightstreet/sparse/0/project.ini
creating: rawnerf/scenes/nightstreet/images/
inflating: rawnerf/scenes/nightstreet/images/IMG_3140.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3133.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3119.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3146.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG 3109.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3135.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG 3139.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3128.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3142.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3132.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3143.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3115.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3114.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3149.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3118.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3116.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3130.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3122.JPG
```

```
inflating: rawnerf/scenes/nightstreet/images/IMG_3152.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3148.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3144.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3138.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG 3129.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3117.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG 3141.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3113.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3108.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3110.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3147.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3105.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3120.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3111.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3127.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3124.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3136.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3121.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3123.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG 3150.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3126.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG 3145.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3134.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3112.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3107.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3153.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3125.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3137.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3131.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3151.JPG
inflating: rawnerf/scenes/nightstreet/images/IMG_3106.JPG
inflating: rawnerf/scenes/nightstreet/colmap_output.txt
creating: rawnerf/scenes/nightstreet/test_preds/
inflating: rawnerf/scenes/nightstreet/test_preds/color_000.png
inflating: rawnerf/scenes/nightstreet/test preds/color 003.png
inflating: rawnerf/scenes/nightstreet/test_preds/color_006.png
inflating: rawnerf/scenes/nightstreet/test preds/color 001.png
inflating: rawnerf/scenes/nightstreet/test_preds/color_002.png
inflating: rawnerf/scenes/nightstreet/test_preds/color_005.png
inflating: rawnerf/scenes/nightstreet/test_preds/color_004.png
inflating: rawnerf/scenes/nightstreet/database.db
creating: rawnerf/scenes/gardenlights/
creating: rawnerf/scenes/gardenlights/raw/
inflating: rawnerf/scenes/gardenlights/raw/APC_0179.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0201.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0202.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0198.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0184.json
```

```
inflating: rawnerf/scenes/gardenlights/raw/APC_0243.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0172.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0249.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0229.json
inflating: rawnerf/scenes/gardenlights/raw/APC 0229.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0234.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0238.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0204.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0233.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0194.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0188.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0179.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0237.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0245.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0171.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0237.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0183.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0234.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0256.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0173.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0251.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0226.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0182.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0225.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0211.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0201.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0171.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0227.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0258.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0181.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0190.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0232.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0192.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0180.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0256.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0209.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0242.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0215.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0193.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0181.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0203.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0216.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0213.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0231.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0174.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0207.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0253.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0218.json
```

```
inflating: rawnerf/scenes/gardenlights/raw/APC_0222.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0206.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0180.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0252.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0231.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0219.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0217.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0224.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0223.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0222.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0218.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0233.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0182.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0220.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0241.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0245.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0178.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0242.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0213.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0214.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0185.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0226.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0247.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0221.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0246.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0188.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0187.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0197.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0232.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0190.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0200.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0246.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0175.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0230.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0204.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0177.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0259.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0211.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0223.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0194.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0196.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0219.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0170.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0228.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0209.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0228.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0202.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0186.json
```

```
inflating: rawnerf/scenes/gardenlights/raw/APC_0176.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0212.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0215.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0183.json
inflating: rawnerf/scenes/gardenlights/raw/APC 0169.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0248.json
inflating: rawnerf/scenes/gardenlights/raw/APC 0172.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0191.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0254.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0217.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0208.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0244.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0170.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0189.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0199.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0250.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0241.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0178.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0252.json
inflating: rawnerf/scenes/gardenlights/raw/APC 0173.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0206.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0225.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0177.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0235.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0236.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0214.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0251.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0248.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0255.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0169.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0216.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0193.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0240.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0212.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0205.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0250.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0185.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0192.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0247.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0210.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0257.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0189.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0207.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0221.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0200.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0195.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0210.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0224.dng
```

```
inflating: rawnerf/scenes/gardenlights/raw/APC_0174.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0243.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0176.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0227.dng
inflating: rawnerf/scenes/gardenlights/raw/APC 0175.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0240.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0258.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0239.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0236.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0203.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0235.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0230.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0197.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0198.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0244.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0191.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0254.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0259.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0195.json
inflating: rawnerf/scenes/gardenlights/raw/APC 0208.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0257.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0205.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0255.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0249.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0238.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0220.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0199.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0187.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0184.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0186.dng
inflating: rawnerf/scenes/gardenlights/raw/APC_0253.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0239.json
inflating: rawnerf/scenes/gardenlights/raw/APC_0196.dng
inflating: rawnerf/scenes/gardenlights/poses_bounds.npy
creating: rawnerf/scenes/gardenlights/sparse/
creating: rawnerf/scenes/gardenlights/sparse/0/
inflating: rawnerf/scenes/gardenlights/sparse/0/points3D.bin
inflating: rawnerf/scenes/gardenlights/sparse/0/images.bin
inflating: rawnerf/scenes/gardenlights/sparse/0/cameras.bin
inflating: rawnerf/scenes/gardenlights/sparse/0/project.ini
creating: rawnerf/scenes/gardenlights/images/
inflating: rawnerf/scenes/gardenlights/images/APC_0180.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0217.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0173.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0189.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0186.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0251.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0226.jpg
```

```
inflating: rawnerf/scenes/gardenlights/images/APC_0233.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0224.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0220.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0249.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0179.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0197.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0174.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0232.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0256.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0190.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0182.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0255.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0225.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0241.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0212.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0172.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0204.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0240.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0243.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0202.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0184.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0259.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0228.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0200.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0239.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0196.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0235.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0229.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0221.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0199.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0242.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0234.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0191.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0193.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0208.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0218.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0244.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0192.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0206.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0170.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0169.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0195.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0176.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0257.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0205.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0178.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0237.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0188.jpg
```

```
inflating: rawnerf/scenes/gardenlights/images/APC_0185.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0213.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0248.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0247.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0209.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0236.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0223.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0214.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0246.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0231.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0222.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0219.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0181.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0238.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0201.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0187.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0258.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0253.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0183.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0245.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0171.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0203.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0250.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0207.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0211.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0210.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0198.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0177.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0194.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0216.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0230.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0175.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0215.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0254.jpg
inflating: rawnerf/scenes/gardenlights/images/APC 0227.jpg
inflating: rawnerf/scenes/gardenlights/images/APC_0252.jpg
inflating: rawnerf/scenes/gardenlights/colmap output.txt
creating: rawnerf/scenes/gardenlights/test_preds/
inflating: rawnerf/scenes/gardenlights/test_preds/color_000.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_003.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_006.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_001.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_010.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_011.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_002.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_005.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_009.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_004.png
```

```
inflating: rawnerf/scenes/gardenlights/test_preds/color_007.png
inflating: rawnerf/scenes/gardenlights/test_preds/color_008.png
inflating: rawnerf/scenes/gardenlights/database.db
creating: rawnerf/scenes/stove/
creating: rawnerf/scenes/stove/raw/
inflating: rawnerf/scenes/stove/raw/IMG_4615.json
inflating: rawnerf/scenes/stove/raw/IMG 4587.json
inflating: rawnerf/scenes/stove/raw/IMG_4633.json
inflating: rawnerf/scenes/stove/raw/IMG 4662.dng
inflating: rawnerf/scenes/stove/raw/IMG_4619.dng
inflating: rawnerf/scenes/stove/raw/IMG_4638.dng
inflating: rawnerf/scenes/stove/raw/IMG_4668.dng
inflating: rawnerf/scenes/stove/raw/IMG_4644.json
inflating: rawnerf/scenes/stove/raw/IMG_4630.dng
inflating: rawnerf/scenes/stove/raw/IMG_4632.dng
inflating: rawnerf/scenes/stove/raw/IMG_4572.json
inflating: rawnerf/scenes/stove/raw/IMG_4633.dng
inflating: rawnerf/scenes/stove/raw/IMG_4614.dng
inflating: rawnerf/scenes/stove/raw/IMG_4573.json
inflating: rawnerf/scenes/stove/raw/IMG 4651.json
inflating: rawnerf/scenes/stove/raw/IMG 4667.dng
inflating: rawnerf/scenes/stove/raw/IMG 4622.dng
inflating: rawnerf/scenes/stove/raw/IMG_4611.dng
inflating: rawnerf/scenes/stove/raw/IMG_4626.dng
inflating: rawnerf/scenes/stove/raw/IMG_4619.json
inflating: rawnerf/scenes/stove/raw/IMG_4618.dng
inflating: rawnerf/scenes/stove/raw/IMG_4666.dng
inflating: rawnerf/scenes/stove/raw/IMG_4613.dng
inflating: rawnerf/scenes/stove/raw/IMG_4596.json
inflating: rawnerf/scenes/stove/raw/IMG_4639.json
inflating: rawnerf/scenes/stove/raw/IMG_4641.dng
inflating: rawnerf/scenes/stove/raw/IMG_4612.json
inflating: rawnerf/scenes/stove/raw/IMG_4577.json
inflating: rawnerf/scenes/stove/raw/IMG_4572.dng
inflating: rawnerf/scenes/stove/raw/IMG 4613.json
inflating: rawnerf/scenes/stove/raw/IMG 4591.dng
inflating: rawnerf/scenes/stove/raw/IMG 4610.json
inflating: rawnerf/scenes/stove/raw/IMG_4590.json
inflating: rawnerf/scenes/stove/raw/IMG_4676.json
inflating: rawnerf/scenes/stove/raw/IMG_4653.json
inflating: rawnerf/scenes/stove/raw/IMG_4665.dng
inflating: rawnerf/scenes/stove/raw/IMG_4604.json
inflating: rawnerf/scenes/stove/raw/IMG_4606.json
inflating: rawnerf/scenes/stove/raw/IMG_4663.json
inflating: rawnerf/scenes/stove/raw/IMG_4575.json
inflating: rawnerf/scenes/stove/raw/IMG_4645.dng
inflating: rawnerf/scenes/stove/raw/IMG_4592.dng
inflating: rawnerf/scenes/stove/raw/IMG_4586.json
```

```
inflating: rawnerf/scenes/stove/raw/IMG_4637.json
inflating: rawnerf/scenes/stove/raw/IMG_4642.json
inflating: rawnerf/scenes/stove/raw/IMG_4667.json
inflating: rawnerf/scenes/stove/raw/IMG_4617.json
inflating: rawnerf/scenes/stove/raw/IMG 4587.dng
inflating: rawnerf/scenes/stove/raw/IMG 4674.json
inflating: rawnerf/scenes/stove/raw/IMG 4657.dng
inflating: rawnerf/scenes/stove/raw/IMG_4655.json
inflating: rawnerf/scenes/stove/raw/IMG 4651.dng
inflating: rawnerf/scenes/stove/raw/IMG_4627.json
inflating: rawnerf/scenes/stove/raw/IMG_4585.json
inflating: rawnerf/scenes/stove/raw/IMG_4585.dng
inflating: rawnerf/scenes/stove/raw/IMG_4656.dng
inflating: rawnerf/scenes/stove/raw/IMG_4576.json
inflating: rawnerf/scenes/stove/raw/IMG_4655.dng
inflating: rawnerf/scenes/stove/raw/IMG_4578.json
inflating: rawnerf/scenes/stove/raw/IMG_4615.dng
inflating: rawnerf/scenes/stove/raw/IMG_4654.dng
inflating: rawnerf/scenes/stove/raw/IMG_4601.dng
inflating: rawnerf/scenes/stove/raw/IMG 4661.json
inflating: rawnerf/scenes/stove/raw/IMG 4627.dng
inflating: rawnerf/scenes/stove/raw/IMG 4660.json
inflating: rawnerf/scenes/stove/raw/IMG_4598.dng
inflating: rawnerf/scenes/stove/raw/IMG_4592.json
inflating: rawnerf/scenes/stove/raw/IMG_4576.dng
inflating: rawnerf/scenes/stove/raw/IMG_4605.json
inflating: rawnerf/scenes/stove/raw/IMG_4664.json
inflating: rawnerf/scenes/stove/raw/IMG_4657.json
inflating: rawnerf/scenes/stove/raw/IMG_4588.json
inflating: rawnerf/scenes/stove/raw/IMG_4675.json
inflating: rawnerf/scenes/stove/raw/IMG_4582.dng
inflating: rawnerf/scenes/stove/raw/IMG_4654.json
inflating: rawnerf/scenes/stove/raw/IMG_4600.dng
inflating: rawnerf/scenes/stove/raw/IMG_4649.dng
inflating: rawnerf/scenes/stove/raw/IMG 4635.dng
inflating: rawnerf/scenes/stove/raw/IMG 4647.json
inflating: rawnerf/scenes/stove/raw/IMG 4636.json
inflating: rawnerf/scenes/stove/raw/IMG_4584.dng
inflating: rawnerf/scenes/stove/raw/IMG_4599.json
inflating: rawnerf/scenes/stove/raw/IMG_4664.dng
inflating: rawnerf/scenes/stove/raw/IMG_4574.json
inflating: rawnerf/scenes/stove/raw/IMG_4625.json
inflating: rawnerf/scenes/stove/raw/IMG_4606.dng
inflating: rawnerf/scenes/stove/raw/IMG_4616.dng
inflating: rawnerf/scenes/stove/raw/IMG_4653.dng
inflating: rawnerf/scenes/stove/raw/IMG_4583.dng
inflating: rawnerf/scenes/stove/raw/IMG_4672.dng
inflating: rawnerf/scenes/stove/raw/IMG_4603.json
```

```
inflating: rawnerf/scenes/stove/raw/IMG_4631.json
inflating: rawnerf/scenes/stove/raw/IMG_4611.json
inflating: rawnerf/scenes/stove/raw/IMG_4590.dng
inflating: rawnerf/scenes/stove/raw/IMG_4631.dng
inflating: rawnerf/scenes/stove/raw/IMG 4640.dng
inflating: rawnerf/scenes/stove/raw/IMG 4646.dng
inflating: rawnerf/scenes/stove/raw/IMG 4581.dng
inflating: rawnerf/scenes/stove/raw/IMG_4658.json
inflating: rawnerf/scenes/stove/raw/IMG 4661.dng
inflating: rawnerf/scenes/stove/raw/IMG_4578.dng
inflating: rawnerf/scenes/stove/raw/IMG_4670.dng
inflating: rawnerf/scenes/stove/raw/IMG_4571.dng
inflating: rawnerf/scenes/stove/raw/IMG_4669.json
inflating: rawnerf/scenes/stove/raw/IMG_4623.dng
inflating: rawnerf/scenes/stove/raw/IMG_4603.dng
inflating: rawnerf/scenes/stove/raw/IMG_4583.json
inflating: rawnerf/scenes/stove/raw/IMG_4628.dng
inflating: rawnerf/scenes/stove/raw/IMG_4577.dng
inflating: rawnerf/scenes/stove/raw/IMG_4635.json
inflating: rawnerf/scenes/stove/raw/IMG 4586.dng
inflating: rawnerf/scenes/stove/raw/IMG 4672.json
inflating: rawnerf/scenes/stove/raw/IMG 4591.json
inflating: rawnerf/scenes/stove/raw/IMG_4666.json
inflating: rawnerf/scenes/stove/raw/IMG_4662.json
inflating: rawnerf/scenes/stove/raw/IMG_4609.dng
inflating: rawnerf/scenes/stove/raw/IMG_4638.json
inflating: rawnerf/scenes/stove/raw/IMG_4673.json
inflating: rawnerf/scenes/stove/raw/IMG_4621.json
inflating: rawnerf/scenes/stove/raw/IMG_4634.dng
inflating: rawnerf/scenes/stove/raw/IMG_4579.json
inflating: rawnerf/scenes/stove/raw/IMG_4637.dng
inflating: rawnerf/scenes/stove/raw/IMG_4610.dng
inflating: rawnerf/scenes/stove/raw/IMG_4575.dng
inflating: rawnerf/scenes/stove/raw/IMG_4594.json
inflating: rawnerf/scenes/stove/raw/IMG 4645.json
inflating: rawnerf/scenes/stove/raw/IMG 4574.dng
inflating: rawnerf/scenes/stove/raw/IMG 4625.dng
inflating: rawnerf/scenes/stove/raw/IMG_4589.dng
inflating: rawnerf/scenes/stove/raw/IMG_4643.json
inflating: rawnerf/scenes/stove/raw/IMG_4620.dng
inflating: rawnerf/scenes/stove/raw/IMG_4597.json
inflating: rawnerf/scenes/stove/raw/IMG_4624.dng
inflating: rawnerf/scenes/stove/raw/IMG_4579.dng
inflating: rawnerf/scenes/stove/raw/IMG_4584.json
inflating: rawnerf/scenes/stove/raw/IMG_4630.json
inflating: rawnerf/scenes/stove/raw/IMG_4646.json
inflating: rawnerf/scenes/stove/raw/IMG_4647.dng
inflating: rawnerf/scenes/stove/raw/IMG_4602.json
```

```
inflating: rawnerf/scenes/stove/raw/IMG_4617.dng
inflating: rawnerf/scenes/stove/raw/IMG_4598.json
inflating: rawnerf/scenes/stove/raw/IMG_4629.json
inflating: rawnerf/scenes/stove/raw/IMG_4594.dng
inflating: rawnerf/scenes/stove/raw/IMG 4589.json
inflating: rawnerf/scenes/stove/raw/IMG 4595.dng
inflating: rawnerf/scenes/stove/raw/IMG 4632.json
inflating: rawnerf/scenes/stove/raw/IMG_4608.dng
inflating: rawnerf/scenes/stove/raw/IMG 4649.json
inflating: rawnerf/scenes/stove/raw/IMG_4656.json
inflating: rawnerf/scenes/stove/raw/IMG_4599.dng
inflating: rawnerf/scenes/stove/raw/IMG_4675.dng
inflating: rawnerf/scenes/stove/raw/IMG_4648.json
inflating: rawnerf/scenes/stove/raw/IMG_4658.dng
inflating: rawnerf/scenes/stove/raw/IMG_4580.dng
inflating: rawnerf/scenes/stove/raw/IMG_4650.dng
inflating: rawnerf/scenes/stove/raw/IMG_4607.dng
inflating: rawnerf/scenes/stove/raw/IMG_4571.json
inflating: rawnerf/scenes/stove/raw/IMG_4626.json
inflating: rawnerf/scenes/stove/raw/IMG 4573.dng
inflating: rawnerf/scenes/stove/raw/IMG 4669.dng
inflating: rawnerf/scenes/stove/raw/IMG 4624.json
inflating: rawnerf/scenes/stove/raw/IMG_4652.json
inflating: rawnerf/scenes/stove/raw/IMG 4671.dng
inflating: rawnerf/scenes/stove/raw/IMG_4595.json
inflating: rawnerf/scenes/stove/raw/IMG_4580.json
inflating: rawnerf/scenes/stove/raw/IMG_4628.json
inflating: rawnerf/scenes/stove/raw/IMG_4663.dng
inflating: rawnerf/scenes/stove/raw/IMG_4601.json
inflating: rawnerf/scenes/stove/raw/IMG_4639.dng
inflating: rawnerf/scenes/stove/raw/IMG_4593.json
inflating: rawnerf/scenes/stove/raw/IMG_4644.dng
inflating: rawnerf/scenes/stove/raw/IMG_4660.dng
inflating: rawnerf/scenes/stove/raw/IMG_4614.json
inflating: rawnerf/scenes/stove/raw/IMG 4665.json
inflating: rawnerf/scenes/stove/raw/IMG 4616.json
inflating: rawnerf/scenes/stove/raw/IMG 4602.dng
inflating: rawnerf/scenes/stove/raw/IMG_4582.json
inflating: rawnerf/scenes/stove/raw/IMG_4674.dng
inflating: rawnerf/scenes/stove/raw/IMG_4629.dng
inflating: rawnerf/scenes/stove/raw/IMG_4609.json
inflating: rawnerf/scenes/stove/raw/IMG_4642.dng
inflating: rawnerf/scenes/stove/raw/IMG_4673.dng
inflating: rawnerf/scenes/stove/raw/IMG_4608.json
inflating: rawnerf/scenes/stove/raw/IMG_4596.dng
inflating: rawnerf/scenes/stove/raw/IMG_4623.json
inflating: rawnerf/scenes/stove/raw/IMG_4620.json
inflating: rawnerf/scenes/stove/raw/IMG_4648.dng
```

```
inflating: rawnerf/scenes/stove/raw/IMG_4612.dng
inflating: rawnerf/scenes/stove/raw/IMG_4621.dng
inflating: rawnerf/scenes/stove/raw/IMG_4659.dng
inflating: rawnerf/scenes/stove/raw/IMG_4668.json
inflating: rawnerf/scenes/stove/raw/IMG 4659.json
inflating: rawnerf/scenes/stove/raw/IMG 4597.dng
inflating: rawnerf/scenes/stove/raw/IMG 4652.dng
inflating: rawnerf/scenes/stove/raw/IMG_4671.json
inflating: rawnerf/scenes/stove/raw/IMG 4643.dng
inflating: rawnerf/scenes/stove/raw/IMG_4607.json
inflating: rawnerf/scenes/stove/raw/IMG_4622.json
inflating: rawnerf/scenes/stove/raw/IMG_4581.json
inflating: rawnerf/scenes/stove/raw/IMG_4593.dng
inflating: rawnerf/scenes/stove/raw/IMG_4604.dng
inflating: rawnerf/scenes/stove/raw/IMG_4618.json
inflating: rawnerf/scenes/stove/raw/IMG_4588.dng
inflating: rawnerf/scenes/stove/raw/IMG_4634.json
inflating: rawnerf/scenes/stove/raw/IMG_4605.dng
inflating: rawnerf/scenes/stove/raw/IMG_4676.dng
inflating: rawnerf/scenes/stove/raw/IMG 4650.json
inflating: rawnerf/scenes/stove/raw/IMG 4636.dng
inflating: rawnerf/scenes/stove/raw/IMG 4670.json
inflating: rawnerf/scenes/stove/raw/IMG_4641.json
inflating: rawnerf/scenes/stove/raw/IMG_4600.json
inflating: rawnerf/scenes/stove/raw/IMG_4640.json
inflating: rawnerf/scenes/stove/poses_bounds.npy
creating: rawnerf/scenes/stove/sparse/
creating: rawnerf/scenes/stove/sparse/0/
inflating: rawnerf/scenes/stove/sparse/0/points3D.bin
inflating: rawnerf/scenes/stove/sparse/0/images.bin
inflating: rawnerf/scenes/stove/sparse/0/cameras.bin
inflating: rawnerf/scenes/stove/sparse/0/project.ini
creating: rawnerf/scenes/stove/images/
inflating: rawnerf/scenes/stove/images/IMG_4575.JPG
inflating: rawnerf/scenes/stove/images/IMG 4637.JPG
inflating: rawnerf/scenes/stove/images/IMG 4669.JPG
inflating: rawnerf/scenes/stove/images/IMG 4604.JPG
inflating: rawnerf/scenes/stove/images/IMG_4629.JPG
inflating: rawnerf/scenes/stove/images/IMG_4676.JPG
inflating: rawnerf/scenes/stove/images/IMG_4623.JPG
inflating: rawnerf/scenes/stove/images/IMG_4625.JPG
inflating: rawnerf/scenes/stove/images/IMG_4642.JPG
inflating: rawnerf/scenes/stove/images/IMG_4607.JPG
inflating: rawnerf/scenes/stove/images/IMG_4610.JPG
inflating: rawnerf/scenes/stove/images/IMG_4595.JPG
inflating: rawnerf/scenes/stove/images/IMG_4603.JPG
inflating: rawnerf/scenes/stove/images/IMG_4614.JPG
inflating: rawnerf/scenes/stove/images/IMG_4585.JPG
```

```
inflating: rawnerf/scenes/stove/images/IMG_4605.JPG
inflating: rawnerf/scenes/stove/images/IMG_4672.JPG
inflating: rawnerf/scenes/stove/images/IMG_4673.JPG
inflating: rawnerf/scenes/stove/images/IMG_4662.JPG
inflating: rawnerf/scenes/stove/images/IMG 4600.JPG
inflating: rawnerf/scenes/stove/images/IMG 4638.JPG
inflating: rawnerf/scenes/stove/images/IMG 4594.JPG
inflating: rawnerf/scenes/stove/images/IMG 4615.JPG
inflating: rawnerf/scenes/stove/images/IMG 4641.JPG
inflating: rawnerf/scenes/stove/images/IMG_4648.JPG
inflating: rawnerf/scenes/stove/images/IMG_4612.JPG
inflating: rawnerf/scenes/stove/images/IMG_4618.JPG
inflating: rawnerf/scenes/stove/images/IMG_4621.JPG
inflating: rawnerf/scenes/stove/images/IMG_4655.JPG
inflating: rawnerf/scenes/stove/images/IMG_4593.JPG
inflating: rawnerf/scenes/stove/images/IMG_4651.JPG
inflating: rawnerf/scenes/stove/images/IMG_4666.JPG
inflating: rawnerf/scenes/stove/images/IMG_4597.JPG
inflating: rawnerf/scenes/stove/images/IMG_4644.JPG
inflating: rawnerf/scenes/stove/images/IMG 4630.JPG
inflating: rawnerf/scenes/stove/images/IMG 4652.JPG
inflating: rawnerf/scenes/stove/images/IMG 4591.JPG
inflating: rawnerf/scenes/stove/images/IMG_4675.JPG
inflating: rawnerf/scenes/stove/images/IMG_4671.JPG
inflating: rawnerf/scenes/stove/images/IMG_4602.JPG
inflating: rawnerf/scenes/stove/images/IMG_4633.JPG
inflating: rawnerf/scenes/stove/images/IMG_4616.JPG
inflating: rawnerf/scenes/stove/images/IMG_4649.JPG
inflating: rawnerf/scenes/stove/images/IMG_4574.JPG
inflating: rawnerf/scenes/stove/images/IMG_4631.JPG
inflating: rawnerf/scenes/stove/images/IMG_4663.JPG
inflating: rawnerf/scenes/stove/images/IMG_4659.JPG
inflating: rawnerf/scenes/stove/images/IMG_4650.JPG
inflating: rawnerf/scenes/stove/images/IMG 4577.JPG
inflating: rawnerf/scenes/stove/images/IMG 4580.JPG
inflating: rawnerf/scenes/stove/images/IMG 4598.JPG
inflating: rawnerf/scenes/stove/images/IMG 4647.JPG
inflating: rawnerf/scenes/stove/images/IMG_4646.JPG
inflating: rawnerf/scenes/stove/images/IMG_4624.JPG
inflating: rawnerf/scenes/stove/images/IMG_4589.JPG
inflating: rawnerf/scenes/stove/images/IMG_4579.JPG
inflating: rawnerf/scenes/stove/images/IMG_4653.JPG
inflating: rawnerf/scenes/stove/images/IMG_4573.JPG
inflating: rawnerf/scenes/stove/images/IMG_4640.JPG
inflating: rawnerf/scenes/stove/images/IMG_4581.JPG
inflating: rawnerf/scenes/stove/images/IMG_4613.JPG
inflating: rawnerf/scenes/stove/images/IMG_4586.JPG
inflating: rawnerf/scenes/stove/images/IMG_4660.JPG
```

```
inflating: rawnerf/scenes/stove/images/IMG_4601.JPG
inflating: rawnerf/scenes/stove/images/IMG_4576.JPG
inflating: rawnerf/scenes/stove/images/IMG_4622.JPG
inflating: rawnerf/scenes/stove/images/IMG_4656.JPG
inflating: rawnerf/scenes/stove/images/IMG 4599.JPG
inflating: rawnerf/scenes/stove/images/IMG 4583.JPG
inflating: rawnerf/scenes/stove/images/IMG 4617.JPG
inflating: rawnerf/scenes/stove/images/IMG 4582.JPG
inflating: rawnerf/scenes/stove/images/IMG 4643.JPG
inflating: rawnerf/scenes/stove/images/IMG_4657.JPG
inflating: rawnerf/scenes/stove/images/IMG_4654.JPG
inflating: rawnerf/scenes/stove/images/IMG_4636.JPG
inflating: rawnerf/scenes/stove/images/IMG_4658.JPG
inflating: rawnerf/scenes/stove/images/IMG_4606.JPG
inflating: rawnerf/scenes/stove/images/IMG_4634.JPG
inflating: rawnerf/scenes/stove/images/IMG_4639.JPG
inflating: rawnerf/scenes/stove/images/IMG_4661.JPG
inflating: rawnerf/scenes/stove/images/IMG_4670.JPG
inflating: rawnerf/scenes/stove/images/IMG_4571.JPG
inflating: rawnerf/scenes/stove/images/IMG 4627.JPG
inflating: rawnerf/scenes/stove/images/IMG 4609.JPG
inflating: rawnerf/scenes/stove/images/IMG 4635.JPG
inflating: rawnerf/scenes/stove/images/IMG_4632.JPG
inflating: rawnerf/scenes/stove/images/IMG_4608.JPG
inflating: rawnerf/scenes/stove/images/IMG_4626.JPG
inflating: rawnerf/scenes/stove/images/IMG_4665.JPG
inflating: rawnerf/scenes/stove/images/IMG_4674.JPG
inflating: rawnerf/scenes/stove/images/IMG_4645.JPG
inflating: rawnerf/scenes/stove/images/IMG_4628.JPG
inflating: rawnerf/scenes/stove/images/IMG_4590.JPG
inflating: rawnerf/scenes/stove/images/IMG_4620.JPG
inflating: rawnerf/scenes/stove/images/IMG_4584.JPG
inflating: rawnerf/scenes/stove/images/IMG_4587.JPG
inflating: rawnerf/scenes/stove/images/IMG 4596.JPG
inflating: rawnerf/scenes/stove/images/IMG 4619.JPG
inflating: rawnerf/scenes/stove/images/IMG 4664.JPG
inflating: rawnerf/scenes/stove/images/IMG 4588.JPG
inflating: rawnerf/scenes/stove/images/IMG 4611.JPG
inflating: rawnerf/scenes/stove/images/IMG_4578.JPG
inflating: rawnerf/scenes/stove/images/IMG_4572.JPG
inflating: rawnerf/scenes/stove/images/IMG_4667.JPG
inflating: rawnerf/scenes/stove/images/IMG_4668.JPG
inflating: rawnerf/scenes/stove/images/IMG_4592.JPG
inflating: rawnerf/scenes/stove/colmap_output.txt
creating: rawnerf/scenes/stove/test_preds/
inflating: rawnerf/scenes/stove/test_preds/color_000.png
inflating: rawnerf/scenes/stove/test_preds/color_003.png
inflating: rawnerf/scenes/stove/test_preds/color_006.png
```

```
inflating: rawnerf/scenes/stove/test_preds/color_001.png
inflating: rawnerf/scenes/stove/test_preds/color_010.png
inflating: rawnerf/scenes/stove/test_preds/color_011.png
inflating: rawnerf/scenes/stove/test_preds/color_002.png
inflating: rawnerf/scenes/stove/test preds/color 005.png
inflating: rawnerf/scenes/stove/test_preds/color_013.png
inflating: rawnerf/scenes/stove/test preds/color 012.png
inflating: rawnerf/scenes/stove/test_preds/color_009.png
inflating: rawnerf/scenes/stove/test_preds/color_004.png
inflating: rawnerf/scenes/stove/test_preds/color_007.png
inflating: rawnerf/scenes/stove/test_preds/color_008.png
inflating: rawnerf/scenes/stove/database.db
creating: rawnerf/scenes/streetcorner/
creating: rawnerf/scenes/streetcorner/raw/
inflating: rawnerf/scenes/streetcorner/raw/IMG_3316.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3301.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3308.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3329.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3315.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3325.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3347.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3331.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3317.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3300.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3342.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3344.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3315.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3342.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3310.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3325.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3322.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3319.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3345.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3321.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3310.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3344.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3305.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3336.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3351.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3307.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3297.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3333.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3346.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3348.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3298.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3351.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3306.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3322.dng
```

```
inflating: rawnerf/scenes/streetcorner/raw/IMG_3302.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3312.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3332.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3337.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3343.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3345.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3309.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3328.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3337.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3296.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3296.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3327.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3303.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3352.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3309.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3326.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3308.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3324.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3328.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3323.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3301.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3311.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3324.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3311.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3349.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3299.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3302.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3329.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3316.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3307.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3327.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3318.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3334.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3338.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3305.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3312.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3326.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3304.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3297.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3339.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3341.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3335.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3335.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3332.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3349.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3352.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3333.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3323.json
```

```
inflating: rawnerf/scenes/streetcorner/raw/IMG_3330.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3319.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3339.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3314.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3348.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3340.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3350.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3320.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3320.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3338.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3306.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3347.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3300.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3318.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3330.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3350.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3313.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3340.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3299.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG 3313.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3346.json
inflating: rawnerf/scenes/streetcorner/raw/IMG 3304.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3336.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3321.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3343.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3341.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3298.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3331.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3317.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3303.dng
inflating: rawnerf/scenes/streetcorner/raw/IMG_3314.json
inflating: rawnerf/scenes/streetcorner/raw/IMG_3334.dng
inflating: rawnerf/scenes/streetcorner/poses_bounds.npy
creating: rawnerf/scenes/streetcorner/sparse/
creating: rawnerf/scenes/streetcorner/sparse/0/
inflating: rawnerf/scenes/streetcorner/sparse/0/points3D.bin
inflating: rawnerf/scenes/streetcorner/sparse/0/images.bin
inflating: rawnerf/scenes/streetcorner/sparse/0/cameras.bin
inflating: rawnerf/scenes/streetcorner/sparse/0/project.ini
creating: rawnerf/scenes/streetcorner/images/
inflating: rawnerf/scenes/streetcorner/images/IMG_3338.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3345.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3328.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3336.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3317.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3337.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3327.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3346.JPG
```

```
inflating: rawnerf/scenes/streetcorner/images/IMG_3324.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3308.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3339.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3296.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3332.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3316.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3335.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3314.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3298.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3310.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3313.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3349.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3331.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3318.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3333.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3350.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3305.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3321.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3323.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3325.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3303.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3311.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3304.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3351.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3352.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3342.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3315.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3300.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3299.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3330.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3329.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3348.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3297.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3347.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3322.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3341.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG 3306.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3320.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3307.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3343.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3301.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3302.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3334.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3309.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3344.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3340.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3319.JPG
inflating: rawnerf/scenes/streetcorner/images/IMG_3312.JPG
```

```
inflating: rawnerf/scenes/streetcorner/images/IMG_3326.JPG
inflating: rawnerf/scenes/streetcorner/colmap_output.txt
creating: rawnerf/scenes/streetcorner/test_preds/
inflating: rawnerf/scenes/streetcorner/test_preds/color_000.png
inflating: rawnerf/scenes/streetcorner/test preds/color 003.png
inflating: rawnerf/scenes/streetcorner/test_preds/color_006.png
inflating: rawnerf/scenes/streetcorner/test preds/color 001.png
inflating: rawnerf/scenes/streetcorner/test_preds/color_002.png
inflating: rawnerf/scenes/streetcorner/test_preds/color_005.png
inflating: rawnerf/scenes/streetcorner/test_preds/color_004.png
inflating: rawnerf/scenes/streetcorner/test_preds/color_007.png
inflating: rawnerf/scenes/streetcorner/database.db
creating: rawnerf/scenes/morningkitchen/
creating: rawnerf/scenes/morningkitchen/raw/
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3089.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3047.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3084.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3055.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3078.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3067.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3077.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3055.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3086.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3094.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3062.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3068.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3063.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3078.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3089.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3054.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3099.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3056.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3096.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3097.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3060.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3091.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3091.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3051.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3074.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3056.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3058.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3050.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3048.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3066.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3048.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3071.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3079.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3095.json
```

```
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3067.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3090.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3085.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3071.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3049.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3059.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3075.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3092.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3064.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3058.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3057.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3049.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3060.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3073.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3086.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3054.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3070.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3065.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3090.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3068.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3077.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3072.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3057.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3064.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3073.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3082.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3087.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3095.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3080.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3098.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3098.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3092.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3053.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3062.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3065.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3075.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3084.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3069.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3087.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3076.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3053.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3070.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3085.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3051.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3052.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3072.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3074.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3061.json
```

```
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3066.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3081.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3069.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3050.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3052.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3093.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3088.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3061.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3063.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3083.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3079.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3059.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3097.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3076.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3094.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3093.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3099.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3080.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3082.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3083.dng
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3096.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG 3081.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3047.json
inflating: rawnerf/scenes/morningkitchen/raw/IMG_3088.dng
inflating: rawnerf/scenes/morningkitchen/poses_bounds.npy
creating: rawnerf/scenes/morningkitchen/sparse/
creating: rawnerf/scenes/morningkitchen/sparse/0/
inflating: rawnerf/scenes/morningkitchen/sparse/0/points3D.bin
inflating: rawnerf/scenes/morningkitchen/sparse/0/images.bin
inflating: rawnerf/scenes/morningkitchen/sparse/0/cameras.bin
inflating: rawnerf/scenes/morningkitchen/sparse/0/project.ini
creating: rawnerf/scenes/morningkitchen/images/
inflating: rawnerf/scenes/morningkitchen/images/IMG_3063.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3084.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3055.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3070.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3057.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3077.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3071.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3080.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3099.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3075.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3079.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3089.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3092.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3067.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3074.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3049.JPG
```

```
inflating: rawnerf/scenes/morningkitchen/images/IMG_3058.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3090.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3048.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3088.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3087.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3053.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3097.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3081.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3069.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3086.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3093.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3083.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3078.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3051.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3060.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3066.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3095.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3047.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3062.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3098.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3091.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3094.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3068.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3096.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3064.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3072.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3085.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3065.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3076.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3061.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3050.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3056.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3082.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG_3052.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3054.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3073.JPG
inflating: rawnerf/scenes/morningkitchen/images/IMG 3059.JPG
inflating: rawnerf/scenes/morningkitchen/colmap_output.txt
creating: rawnerf/scenes/morningkitchen/test_preds/
inflating: rawnerf/scenes/morningkitchen/test_preds/color_000.png
inflating: rawnerf/scenes/morningkitchen/test_preds/color_003.png
inflating: rawnerf/scenes/morningkitchen/test_preds/color_006.png
inflating: rawnerf/scenes/morningkitchen/test_preds/color_001.png
inflating: rawnerf/scenes/morningkitchen/test_preds/color_002.png
inflating: rawnerf/scenes/morningkitchen/test_preds/color_005.png
inflating: rawnerf/scenes/morningkitchen/test_preds/color_004.png
inflating: rawnerf/scenes/morningkitchen/database.db
creating: rawnerf/scenes/notchbush/
```

```
creating: rawnerf/scenes/notchbush/raw/
inflating: rawnerf/scenes/notchbush/raw/IMG_3283.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3265.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3258.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3270.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3240.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3259.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3260.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3255.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3236.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3291.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3257.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3271.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3253.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3291.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3276.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3286.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3286.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3251.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3244.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3284.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3255.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3253.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3247.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3277.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3284.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3244.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3285.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3248.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3251.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3275.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3252.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3295.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3245.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3275.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3252.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3250.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3269.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3240.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3258.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3279.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3264.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3256.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3288.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3272.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3249.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3262.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3237.json
```

```
inflating: rawnerf/scenes/notchbush/raw/IMG_3266.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3294.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3243.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3235.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3245.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3293.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3267.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3237.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3285.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3242.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3278.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3269.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3234.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3246.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3239.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3268.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3235.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3249.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3254.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3238.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3281.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3266.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3239.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3233.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3279.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3265.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3287.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3262.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3293.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3241.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3242.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3261.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3276.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3273.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3295.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3241.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3292.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3257.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3281.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3260.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3288.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3246.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3287.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3263.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3254.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3247.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3289.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3294.dng
```

```
inflating: rawnerf/scenes/notchbush/raw/IMG_3264.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3256.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3290.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3233.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3290.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3278.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3273.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3280.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3274.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3248.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3267.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3289.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3292.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3243.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3280.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3282.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3282.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3272.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3259.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3234.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3283.dng
inflating: rawnerf/scenes/notchbush/raw/IMG 3261.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3250.json
inflating: rawnerf/scenes/notchbush/raw/IMG 3277.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3274.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3236.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3271.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3270.json
inflating: rawnerf/scenes/notchbush/raw/IMG_3263.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3238.dng
inflating: rawnerf/scenes/notchbush/raw/IMG_3268.dng
inflating: rawnerf/scenes/notchbush/poses_bounds.npy
creating: rawnerf/scenes/notchbush/sparse/
creating: rawnerf/scenes/notchbush/sparse/0/
inflating: rawnerf/scenes/notchbush/sparse/0/points3D.bin
inflating: rawnerf/scenes/notchbush/sparse/0/images.bin
inflating: rawnerf/scenes/notchbush/sparse/0/cameras.bin
inflating: rawnerf/scenes/notchbush/sparse/0/project.ini
creating: rawnerf/scenes/notchbush/images/
inflating: rawnerf/scenes/notchbush/images/IMG_3250.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3285.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3246.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3278.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3282.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3251.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3288.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3242.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3239.JPG
```

```
inflating: rawnerf/scenes/notchbush/images/IMG_3277.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3290.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3244.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3293.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3248.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3273.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3254.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3245.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3284.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3256.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3233.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3263.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3235.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3249.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3276.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3255.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3259.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3270.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3265.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3240.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3247.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3274.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3267.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3241.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3291.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3264.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3257.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3266.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3269.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3258.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3268.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3280.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3238.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3253.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3252.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3261.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3286.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3236.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3294.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3262.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3234.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3292.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3289.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3271.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3283.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3275.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3237.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3295.JPG
```

```
inflating: rawnerf/scenes/notchbush/images/IMG_3260.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3287.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3243.JPG
inflating: rawnerf/scenes/notchbush/images/IMG_3281.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3272.JPG
inflating: rawnerf/scenes/notchbush/images/IMG 3279.JPG
inflating: rawnerf/scenes/notchbush/colmap output.txt
creating: rawnerf/scenes/notchbush/test_preds/
inflating: rawnerf/scenes/notchbush/test preds/color 000.png
inflating: rawnerf/scenes/notchbush/test_preds/color_003.png
inflating: rawnerf/scenes/notchbush/test_preds/color_006.png
inflating: rawnerf/scenes/notchbush/test_preds/color_001.png
inflating: rawnerf/scenes/notchbush/test_preds/color_002.png
inflating: rawnerf/scenes/notchbush/test_preds/color_005.png
inflating: rawnerf/scenes/notchbush/test_preds/color_004.png
inflating: rawnerf/scenes/notchbush/test_preds/color_007.png
inflating: rawnerf/scenes/notchbush/database.db
creating: rawnerf/scenes/scooter/
creating: rawnerf/scenes/scooter/raw/
inflating: rawnerf/scenes/scooter/raw/IMG 4779.json
inflating: rawnerf/scenes/scooter/raw/IMG 4806.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4780.json
inflating: rawnerf/scenes/scooter/raw/IMG_4803.json
inflating: rawnerf/scenes/scooter/raw/IMG_4796.json
inflating: rawnerf/scenes/scooter/raw/IMG_4790.json
inflating: rawnerf/scenes/scooter/raw/IMG_4794.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4769.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4800.json
inflating: rawnerf/scenes/scooter/raw/IMG_4767.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4806.json
inflating: rawnerf/scenes/scooter/raw/IMG_4765.json
inflating: rawnerf/scenes/scooter/raw/IMG_4805.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4774.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4771.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4765.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4762.json
inflating: rawnerf/scenes/scooter/raw/IMG 4767.json
inflating: rawnerf/scenes/scooter/raw/IMG_4788.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4776.json
inflating: rawnerf/scenes/scooter/raw/IMG_4763.json
inflating: rawnerf/scenes/scooter/raw/IMG_4762.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4794.json
inflating: rawnerf/scenes/scooter/raw/IMG_4764.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4766.json
inflating: rawnerf/scenes/scooter/raw/IMG_4805.json
inflating: rawnerf/scenes/scooter/raw/IMG_4782.json
inflating: rawnerf/scenes/scooter/raw/IMG_4770.json
inflating: rawnerf/scenes/scooter/raw/IMG_4809.json
```

```
inflating: rawnerf/scenes/scooter/raw/IMG_4775.json
inflating: rawnerf/scenes/scooter/raw/IMG_4813.json
inflating: rawnerf/scenes/scooter/raw/IMG_4768.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4785.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4789.json
inflating: rawnerf/scenes/scooter/raw/IMG 4777.json
inflating: rawnerf/scenes/scooter/raw/IMG 4778.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4809.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4808.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4770.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4812.json
inflating: rawnerf/scenes/scooter/raw/IMG_4763.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4774.json
inflating: rawnerf/scenes/scooter/raw/IMG_4784.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4787.json
inflating: rawnerf/scenes/scooter/raw/IMG_4800.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4797.json
inflating: rawnerf/scenes/scooter/raw/IMG_4804.json
inflating: rawnerf/scenes/scooter/raw/IMG_4784.json
inflating: rawnerf/scenes/scooter/raw/IMG 4792.json
inflating: rawnerf/scenes/scooter/raw/IMG 4786.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4764.json
inflating: rawnerf/scenes/scooter/raw/IMG_4790.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4781.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4793.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4771.json
inflating: rawnerf/scenes/scooter/raw/IMG_4812.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4813.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4786.json
inflating: rawnerf/scenes/scooter/raw/IMG_4788.json
inflating: rawnerf/scenes/scooter/raw/IMG_4804.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4801.json
inflating: rawnerf/scenes/scooter/raw/IMG_4803.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4778.json
inflating: rawnerf/scenes/scooter/raw/IMG 4775.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4798.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4761.json
inflating: rawnerf/scenes/scooter/raw/IMG_4772.json
inflating: rawnerf/scenes/scooter/raw/IMG_4807.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4814.json
inflating: rawnerf/scenes/scooter/raw/IMG_4793.json
inflating: rawnerf/scenes/scooter/raw/IMG_4797.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4808.json
inflating: rawnerf/scenes/scooter/raw/IMG_4768.json
inflating: rawnerf/scenes/scooter/raw/IMG_4811.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4783.json
inflating: rawnerf/scenes/scooter/raw/IMG_4795.json
inflating: rawnerf/scenes/scooter/raw/IMG_4801.dng
```

```
inflating: rawnerf/scenes/scooter/raw/IMG_4772.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4810.json
inflating: rawnerf/scenes/scooter/raw/IMG_4769.json
inflating: rawnerf/scenes/scooter/raw/IMG_4795.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4807.json
inflating: rawnerf/scenes/scooter/raw/IMG 4792.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4791.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4773.json
inflating: rawnerf/scenes/scooter/raw/IMG 4799.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4814.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4787.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4799.json
inflating: rawnerf/scenes/scooter/raw/IMG_4766.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4779.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4802.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4781.json
inflating: rawnerf/scenes/scooter/raw/IMG_4761.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4785.json
inflating: rawnerf/scenes/scooter/raw/IMG_4810.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4791.json
inflating: rawnerf/scenes/scooter/raw/IMG 4780.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4773.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4789.dng
inflating: rawnerf/scenes/scooter/raw/IMG 4782.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4783.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4802.json
inflating: rawnerf/scenes/scooter/raw/IMG_4796.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4776.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4811.json
inflating: rawnerf/scenes/scooter/raw/IMG_4777.dng
inflating: rawnerf/scenes/scooter/raw/IMG_4798.json
inflating: rawnerf/scenes/scooter/poses_bounds.npy
creating: rawnerf/scenes/scooter/sparse/
creating: rawnerf/scenes/scooter/sparse/0/
inflating: rawnerf/scenes/scooter/sparse/0/points3D.bin
inflating: rawnerf/scenes/scooter/sparse/0/images.bin
inflating: rawnerf/scenes/scooter/sparse/0/cameras.bin
inflating: rawnerf/scenes/scooter/sparse/0/project.ini
creating: rawnerf/scenes/scooter/images/
inflating: rawnerf/scenes/scooter/images/IMG_4810.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4767.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4765.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4779.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4768.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4781.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4769.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4766.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4802.JPG
```

```
inflating: rawnerf/scenes/scooter/images/IMG_4777.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4764.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4792.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4805.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4793.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4796.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4787.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4800.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4803.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4786.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4782.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4801.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4789.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4761.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4814.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4763.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4773.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4795.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4813.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4776.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4770.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4790.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4784.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4778.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4794.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4798.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4799.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4762.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4797.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4772.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4788.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4806.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4785.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4804.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4791.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4807.JPG
inflating: rawnerf/scenes/scooter/images/IMG 4812.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4811.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4775.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4809.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4771.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4780.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4783.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4774.JPG
inflating: rawnerf/scenes/scooter/images/IMG_4808.JPG
inflating: rawnerf/scenes/scooter/colmap_output.txt
 creating: rawnerf/scenes/scooter/test_preds/
inflating: rawnerf/scenes/scooter/test_preds/color_000.png
```

```
inflating: rawnerf/scenes/scooter/test_preds/color_003.png
inflating: rawnerf/scenes/scooter/test_preds/color_006.png
inflating: rawnerf/scenes/scooter/test_preds/color_001.png
inflating: rawnerf/scenes/scooter/test_preds/color_002.png
inflating: rawnerf/scenes/scooter/test preds/color 005.png
inflating: rawnerf/scenes/scooter/test preds/color 004.png
inflating: rawnerf/scenes/scooter/database.db
creating: rawnerf/scenes/windowlegovary/
creating: rawnerf/scenes/windowlegovary/raw/
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6846.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6808.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6865.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6899.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6882.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6838.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6875.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6842.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6866.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6833.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6831.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6849.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6843.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6856.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6885.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6798.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6848.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6817.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6805.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6802.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6816.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6872.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6811.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6878.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6826.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6798.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6810.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6835.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6847.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6876.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6874.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6857.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6811.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6868.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6838.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6839.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6863.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6801.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6803.json
```

```
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6797.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6846.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6809.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6892.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6824.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6875.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6821.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6814.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6801.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6892.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6859.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6860.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6844.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6826.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6800.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6800.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6858.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6871.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6799.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6897.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6831.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6850.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6873.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6860.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6844.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6878.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6858.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6828.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6899.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6809.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6856.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6850.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6849.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6893.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6879.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6827.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6867.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6810.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6818.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6796.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6832.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6835.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6864.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6868.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6874.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6848.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6865.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6806.dng
```

```
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6842.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6884.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6886.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6854.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6857.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6853.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6887.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6820.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6853.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6830.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6864.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6808.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6828.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6845.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6815.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6851.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6863.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6807.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6802.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6896.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6832.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6805.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6813.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6843.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6824.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6836.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6890.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6855.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6812.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6836.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6806.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6833.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6854.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6888.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6797.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6852.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6862.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6827.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6876.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6820.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6894.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6898.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6877.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6896.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6837.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6883.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6814.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6796.json
```

```
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6825.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6845.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6819.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6890.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6852.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6807.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6879.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6869.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6881.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6841.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6867.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6893.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6883.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6881.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6894.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6830.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6834.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6829.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6847.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6862.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6851.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6880.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6813.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6897.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6870.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6866.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6859.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6889.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6895.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6877.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6861.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6839.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6886.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6837.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6829.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6822.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6804.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6873.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6891.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6816.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6821.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6834.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6895.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6812.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6825.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6880.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6884.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6882.json
```

```
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6869.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6885.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6841.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6889.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6840.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6799.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6803.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6840.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6818.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6823.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6871.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6823.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6817.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6822.json
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inflating: rawnerf/scenes/windowlegovary/raw/IMG_6870.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6891.dng
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inflating: rawnerf/scenes/windowlegovary/raw/IMG_6804.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG 6815.json
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inflating: rawnerf/scenes/windowlegovary/raw/IMG 6872.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6855.json
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6888.dng
inflating: rawnerf/scenes/windowlegovary/raw/IMG_6887.dng
inflating: rawnerf/scenes/windowlegovary/poses_bounds.npy
creating: rawnerf/scenes/windowlegovary/sparse/
creating: rawnerf/scenes/windowlegovary/sparse/0/
inflating: rawnerf/scenes/windowlegovary/sparse/0/points3D.bin
inflating: rawnerf/scenes/windowlegovary/sparse/0/images.bin
inflating: rawnerf/scenes/windowlegovary/sparse/0/cameras.bin
inflating: rawnerf/scenes/windowlegovary/sparse/0/project.ini
creating: rawnerf/scenes/windowlegovary/images/
inflating: rawnerf/scenes/windowlegovary/images/IMG_6876.JPG
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inflating: rawnerf/scenes/windowlegovary/images/IMG 6827.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG 6801.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6864.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6880.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6817.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6829.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6847.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6804.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6809.JPG
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inflating: rawnerf/scenes/windowlegovary/images/IMG_6865.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6896.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6877.JPG
```

```
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inflating: rawnerf/scenes/windowlegovary/images/IMG_6854.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6852.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6879.JPG
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inflating: rawnerf/scenes/windowlegovary/images/IMG_6830.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6805.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6799.JPG
```

```
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inflating: rawnerf/scenes/windowlegovary/images/IMG 6855.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG 6870.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG 6860.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6894.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6874.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6884.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6869.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6806.JPG
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inflating: rawnerf/scenes/windowlegovary/images/IMG_6802.JPG
inflating: rawnerf/scenes/windowlegovary/images/IMG_6858.JPG
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inflating: rawnerf/scenes/windowlegovary/test_preds/color_000.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_024.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_019.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_026.png
```

```
inflating: rawnerf/scenes/windowlegovary/test_preds/color_023.png
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inflating: rawnerf/scenes/windowlegovary/test_preds/color_025.png
inflating: rawnerf/scenes/windowlegovary/test preds/color 018.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_006.png
inflating: rawnerf/scenes/windowlegovary/test preds/color 001.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_017.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_010.png
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inflating: rawnerf/scenes/windowlegovary/test_preds/color_011.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_002.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_027.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_016.png
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inflating: rawnerf/scenes/windowlegovary/test_preds/color_013.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_022.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_012.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_009.png
inflating: rawnerf/scenes/windowlegovary/test preds/color 004.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_007.png
inflating: rawnerf/scenes/windowlegovary/test preds/color 028.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_014.png
inflating: rawnerf/scenes/windowlegovary/test_preds/color_008.png
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creating: rawnerf/scenes/livingroom/raw/
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inflating: rawnerf/scenes/livingroom/raw/IMG_2412.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2401.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2400.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2399.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2378.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2392.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2420.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2389.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2376.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2417.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2417.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2386.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2403.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2383.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2388.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2394.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2413.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2389.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2402.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2379.json
```

```
inflating: rawnerf/scenes/livingroom/raw/IMG_2415.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2400.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2375.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2411.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2377.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2383.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2419.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2419.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2404.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2396.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2387.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2376.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2385.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2382.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2412.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2373.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2393.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2397.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2381.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2381.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2410.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2395.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2411.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2405.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2374.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2407.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2408.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2395.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2380.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2373.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2377.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2415.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2390.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2407.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2382.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2401.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2399.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2398.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2422.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2421.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2402.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2391.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2410.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2406.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2387.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2414.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2384.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2375.json
```

```
inflating: rawnerf/scenes/livingroom/raw/IMG_2397.json
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inflating: rawnerf/scenes/livingroom/raw/IMG_2390.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2403.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2404.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2408.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2385.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2416.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2398.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2418.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2409.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2392.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2413.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2379.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2391.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2394.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2418.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2388.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2409.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2422.dng
inflating: rawnerf/scenes/livingroom/raw/IMG 2384.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2414.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2380.json
inflating: rawnerf/scenes/livingroom/raw/IMG 2416.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2378.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2405.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2406.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2374.json
inflating: rawnerf/scenes/livingroom/raw/IMG_2393.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2396.dng
inflating: rawnerf/scenes/livingroom/raw/IMG_2420.json
inflating: rawnerf/scenes/livingroom/poses_bounds.npy
creating: rawnerf/scenes/livingroom/sparse/
creating: rawnerf/scenes/livingroom/sparse/0/
inflating: rawnerf/scenes/livingroom/sparse/0/points3D.bin
inflating: rawnerf/scenes/livingroom/sparse/0/images.bin
inflating: rawnerf/scenes/livingroom/sparse/0/cameras.bin
inflating: rawnerf/scenes/livingroom/sparse/0/project.ini
creating: rawnerf/scenes/livingroom/images/
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inflating: rawnerf/scenes/livingroom/images/IMG_2379.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2408.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2418.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2417.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2402.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2390.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2400.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2380.JPG
```

```
inflating: rawnerf/scenes/livingroom/images/IMG_2396.JPG
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inflating: rawnerf/scenes/livingroom/images/IMG_2388.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2406.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2391.JPG
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inflating: rawnerf/scenes/livingroom/images/IMG_2410.JPG
inflating: rawnerf/scenes/livingroom/images/IMG 2412.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2382.JPG
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inflating: rawnerf/scenes/livingroom/images/IMG_2419.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2389.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2399.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2384.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2398.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2416.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2404.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2409.JPG
inflating: rawnerf/scenes/livingroom/images/IMG 2422.JPG
inflating: rawnerf/scenes/livingroom/images/IMG 2421.JPG
inflating: rawnerf/scenes/livingroom/images/IMG 2385.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2377.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2397.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2381.JPG
inflating: rawnerf/scenes/livingroom/images/IMG_2394.JPG
inflating: rawnerf/scenes/livingroom/colmap_output.txt
creating: rawnerf/scenes/livingroom/test_preds/
inflating: rawnerf/scenes/livingroom/test_preds/color_000.png
inflating: rawnerf/scenes/livingroom/test_preds/color_003.png
inflating: rawnerf/scenes/livingroom/test preds/color 006.png
inflating: rawnerf/scenes/livingroom/test_preds/color_001.png
inflating: rawnerf/scenes/livingroom/test_preds/color_002.png
```

```
inflating: rawnerf/scenes/livingroom/test_preds/color_005.png
inflating: rawnerf/scenes/livingroom/test_preds/color_004.png
inflating: rawnerf/scenes/livingroom/database.db
creating: rawnerf/scenes/candle/
creating: rawnerf/scenes/candle/raw/
inflating: rawnerf/scenes/candle/raw/IMG 5173.dng
inflating: rawnerf/scenes/candle/raw/IMG 5217.dng
inflating: rawnerf/scenes/candle/raw/IMG_5199.json
inflating: rawnerf/scenes/candle/raw/IMG 5092.json
inflating: rawnerf/scenes/candle/raw/IMG_5201.dng
inflating: rawnerf/scenes/candle/raw/IMG_5194.json
inflating: rawnerf/scenes/candle/raw/IMG_5235.json
inflating: rawnerf/scenes/candle/raw/IMG_5165.dng
inflating: rawnerf/scenes/candle/raw/IMG_5183.dng
inflating: rawnerf/scenes/candle/raw/IMG_5154.json
inflating: rawnerf/scenes/candle/raw/IMG_5147.json
inflating: rawnerf/scenes/candle/raw/IMG_5225.json
inflating: rawnerf/scenes/candle/raw/IMG_5233.dng
inflating: rawnerf/scenes/candle/raw/IMG_5071.dng
inflating: rawnerf/scenes/candle/raw/IMG 5089.dng
inflating: rawnerf/scenes/candle/raw/IMG 5082.dng
inflating: rawnerf/scenes/candle/raw/IMG 5167.json
inflating: rawnerf/scenes/candle/raw/IMG_5147.dng
inflating: rawnerf/scenes/candle/raw/IMG_5224.json
inflating: rawnerf/scenes/candle/raw/IMG_5203.json
inflating: rawnerf/scenes/candle/raw/IMG_5159.dng
inflating: rawnerf/scenes/candle/raw/IMG_5078.json
inflating: rawnerf/scenes/candle/raw/IMG_5182.dng
inflating: rawnerf/scenes/candle/raw/IMG_5234.json
inflating: rawnerf/scenes/candle/raw/IMG_5231.json
inflating: rawnerf/scenes/candle/raw/IMG_5195.dng
inflating: rawnerf/scenes/candle/raw/IMG_5084.json
inflating: rawnerf/scenes/candle/raw/IMG_5106.dng
inflating: rawnerf/scenes/candle/raw/IMG_5185.json
inflating: rawnerf/scenes/candle/raw/IMG 5204.dng
inflating: rawnerf/scenes/candle/raw/IMG 5095.dng
inflating: rawnerf/scenes/candle/raw/IMG 5111.json
inflating: rawnerf/scenes/candle/raw/IMG_5145.json
inflating: rawnerf/scenes/candle/raw/IMG_5227.json
inflating: rawnerf/scenes/candle/raw/IMG_5116.dng
inflating: rawnerf/scenes/candle/raw/IMG_5061.json
inflating: rawnerf/scenes/candle/raw/IMG_5069.json
inflating: rawnerf/scenes/candle/raw/IMG_5113.dng
inflating: rawnerf/scenes/candle/raw/IMG_5167.dng
inflating: rawnerf/scenes/candle/raw/IMG_5073.json
inflating: rawnerf/scenes/candle/raw/IMG_5226.json
inflating: rawnerf/scenes/candle/raw/IMG_5077.json
inflating: rawnerf/scenes/candle/raw/IMG_5077.dng
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5048.json
inflating: rawnerf/scenes/candle/raw/IMG_5062.json
inflating: rawnerf/scenes/candle/raw/IMG_5178.json
inflating: rawnerf/scenes/candle/raw/IMG_5086.dng
inflating: rawnerf/scenes/candle/raw/IMG 5087.json
inflating: rawnerf/scenes/candle/raw/IMG 5169.json
inflating: rawnerf/scenes/candle/raw/IMG 5059.dng
inflating: rawnerf/scenes/candle/raw/IMG_5091.dng
inflating: rawnerf/scenes/candle/raw/IMG_5234.dng
inflating: rawnerf/scenes/candle/raw/IMG_5051.json
inflating: rawnerf/scenes/candle/raw/IMG_5199.dng
inflating: rawnerf/scenes/candle/raw/IMG_5052.json
inflating: rawnerf/scenes/candle/raw/IMG_5108.json
inflating: rawnerf/scenes/candle/raw/IMG_5114.json
inflating: rawnerf/scenes/candle/raw/IMG_5098.json
inflating: rawnerf/scenes/candle/raw/IMG_5196.dng
inflating: rawnerf/scenes/candle/raw/IMG_5120.dng
inflating: rawnerf/scenes/candle/raw/IMG_5088.json
inflating: rawnerf/scenes/candle/raw/IMG_5055.json
inflating: rawnerf/scenes/candle/raw/IMG 5186.dng
inflating: rawnerf/scenes/candle/raw/IMG_5197.json
inflating: rawnerf/scenes/candle/raw/IMG 5219.dng
inflating: rawnerf/scenes/candle/raw/IMG_5099.dng
inflating: rawnerf/scenes/candle/raw/IMG_5204.json
inflating: rawnerf/scenes/candle/raw/IMG_5114.dng
inflating: rawnerf/scenes/candle/raw/IMG_5047.json
inflating: rawnerf/scenes/candle/raw/IMG_5208.dng
inflating: rawnerf/scenes/candle/raw/IMG_5048.dng
inflating: rawnerf/scenes/candle/raw/IMG_5182.json
inflating: rawnerf/scenes/candle/raw/IMG_5188.json
inflating: rawnerf/scenes/candle/raw/IMG_5174.json
inflating: rawnerf/scenes/candle/raw/IMG_5084.dng
inflating: rawnerf/scenes/candle/raw/IMG_5104.dng
inflating: rawnerf/scenes/candle/raw/IMG_5096.dng
inflating: rawnerf/scenes/candle/raw/IMG 5119.dng
inflating: rawnerf/scenes/candle/raw/IMG 5229.dng
inflating: rawnerf/scenes/candle/raw/IMG 5168.json
inflating: rawnerf/scenes/candle/raw/IMG_5164.json
inflating: rawnerf/scenes/candle/raw/IMG_5070.dng
inflating: rawnerf/scenes/candle/raw/IMG_5152.json
inflating: rawnerf/scenes/candle/raw/IMG_5072.json
inflating: rawnerf/scenes/candle/raw/IMG_5179.dng
inflating: rawnerf/scenes/candle/raw/IMG_5105.json
inflating: rawnerf/scenes/candle/raw/IMG_5099.json
inflating: rawnerf/scenes/candle/raw/IMG_5148.json
inflating: rawnerf/scenes/candle/raw/IMG_5113.json
inflating: rawnerf/scenes/candle/raw/IMG_5089.json
inflating: rawnerf/scenes/candle/raw/IMG_5088.dng
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5115.json
inflating: rawnerf/scenes/candle/raw/IMG_5192.dng
inflating: rawnerf/scenes/candle/raw/IMG_5153.dng
inflating: rawnerf/scenes/candle/raw/IMG_5235.dng
inflating: rawnerf/scenes/candle/raw/IMG 5209.json
inflating: rawnerf/scenes/candle/raw/IMG 5121.dng
inflating: rawnerf/scenes/candle/raw/IMG 5176.json
inflating: rawnerf/scenes/candle/raw/IMG_5225.dng
inflating: rawnerf/scenes/candle/raw/IMG 5094.dng
inflating: rawnerf/scenes/candle/raw/IMG_5070.json
inflating: rawnerf/scenes/candle/raw/IMG_5177.json
inflating: rawnerf/scenes/candle/raw/IMG_5071.json
inflating: rawnerf/scenes/candle/raw/IMG_5155.json
inflating: rawnerf/scenes/candle/raw/IMG_5078.dng
inflating: rawnerf/scenes/candle/raw/IMG_5087.dng
inflating: rawnerf/scenes/candle/raw/IMG_5076.dng
inflating: rawnerf/scenes/candle/raw/IMG_5218.json
inflating: rawnerf/scenes/candle/raw/IMG_5228.dng
inflating: rawnerf/scenes/candle/raw/IMG_5163.json
inflating: rawnerf/scenes/candle/raw/IMG 5162.dng
inflating: rawnerf/scenes/candle/raw/IMG 5205.dng
inflating: rawnerf/scenes/candle/raw/IMG 5149.dng
inflating: rawnerf/scenes/candle/raw/IMG_5178.dng
inflating: rawnerf/scenes/candle/raw/IMG_5223.json
inflating: rawnerf/scenes/candle/raw/IMG_5122.dng
inflating: rawnerf/scenes/candle/raw/IMG_5160.dng
inflating: rawnerf/scenes/candle/raw/IMG_5238.dng
inflating: rawnerf/scenes/candle/raw/IMG_5197.dng
inflating: rawnerf/scenes/candle/raw/IMG_5091.json
inflating: rawnerf/scenes/candle/raw/IMG_5076.json
inflating: rawnerf/scenes/candle/raw/IMG_5193.json
inflating: rawnerf/scenes/candle/raw/IMG_5210.dng
inflating: rawnerf/scenes/candle/raw/IMG_5153.json
inflating: rawnerf/scenes/candle/raw/IMG_5230.dng
inflating: rawnerf/scenes/candle/raw/IMG 5093.dng
inflating: rawnerf/scenes/candle/raw/IMG 5191.dng
inflating: rawnerf/scenes/candle/raw/IMG 5074.json
inflating: rawnerf/scenes/candle/raw/IMG_5068.dng
inflating: rawnerf/scenes/candle/raw/IMG_5207.json
inflating: rawnerf/scenes/candle/raw/IMG_5154.dng
inflating: rawnerf/scenes/candle/raw/IMG_5207.dng
inflating: rawnerf/scenes/candle/raw/IMG_5146.dng
inflating: rawnerf/scenes/candle/raw/IMG_5218.dng
inflating: rawnerf/scenes/candle/raw/IMG_5228.json
inflating: rawnerf/scenes/candle/raw/IMG_5200.json
inflating: rawnerf/scenes/candle/raw/IMG_5174.dng
inflating: rawnerf/scenes/candle/raw/IMG_5186.json
inflating: rawnerf/scenes/candle/raw/IMG_5085.json
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5222.dng
inflating: rawnerf/scenes/candle/raw/IMG_5081.json
inflating: rawnerf/scenes/candle/raw/IMG_5068.json
inflating: rawnerf/scenes/candle/raw/IMG_5212.json
inflating: rawnerf/scenes/candle/raw/IMG 5100.json
inflating: rawnerf/scenes/candle/raw/IMG 5209.dng
inflating: rawnerf/scenes/candle/raw/IMG 5149.json
inflating: rawnerf/scenes/candle/raw/IMG_5103.dng
inflating: rawnerf/scenes/candle/raw/IMG 5050.dng
inflating: rawnerf/scenes/candle/raw/IMG_5097.json
inflating: rawnerf/scenes/candle/raw/IMG_5109.json
inflating: rawnerf/scenes/candle/raw/IMG_5238.json
inflating: rawnerf/scenes/candle/raw/IMG_5110.dng
inflating: rawnerf/scenes/candle/raw/IMG_5106.json
inflating: rawnerf/scenes/candle/raw/IMG_5059.json
inflating: rawnerf/scenes/candle/raw/IMG_5171.json
inflating: rawnerf/scenes/candle/raw/IMG_5223.dng
inflating: rawnerf/scenes/candle/raw/IMG_5096.json
inflating: rawnerf/scenes/candle/raw/IMG_5212.dng
inflating: rawnerf/scenes/candle/raw/IMG 5112.dng
inflating: rawnerf/scenes/candle/raw/IMG 5191.json
inflating: rawnerf/scenes/candle/raw/IMG 5184.dng
inflating: rawnerf/scenes/candle/raw/IMG_5216.json
inflating: rawnerf/scenes/candle/raw/IMG_5158.json
inflating: rawnerf/scenes/candle/raw/IMG_5155.dng
inflating: rawnerf/scenes/candle/raw/IMG_5058.json
inflating: rawnerf/scenes/candle/raw/IMG_5120.json
inflating: rawnerf/scenes/candle/raw/IMG_5152.dng
inflating: rawnerf/scenes/candle/raw/IMG_5190.dng
inflating: rawnerf/scenes/candle/raw/IMG_5188.dng
inflating: rawnerf/scenes/candle/raw/IMG_5236.json
inflating: rawnerf/scenes/candle/raw/IMG_5171.dng
inflating: rawnerf/scenes/candle/raw/IMG_5063.json
inflating: rawnerf/scenes/candle/raw/IMG_5158.dng
inflating: rawnerf/scenes/candle/raw/IMG 5085.dng
inflating: rawnerf/scenes/candle/raw/IMG 5156.dng
inflating: rawnerf/scenes/candle/raw/IMG 5047.dng
inflating: rawnerf/scenes/candle/raw/IMG_5169.dng
inflating: rawnerf/scenes/candle/raw/IMG_5050.json
inflating: rawnerf/scenes/candle/raw/IMG_5200.dng
inflating: rawnerf/scenes/candle/raw/IMG_5202.json
inflating: rawnerf/scenes/candle/raw/IMG_5160.json
inflating: rawnerf/scenes/candle/raw/IMG_5053.json
inflating: rawnerf/scenes/candle/raw/IMG_5090.json
inflating: rawnerf/scenes/candle/raw/IMG_5168.dng
inflating: rawnerf/scenes/candle/raw/IMG_5066.dng
inflating: rawnerf/scenes/candle/raw/IMG_5069.dng
inflating: rawnerf/scenes/candle/raw/IMG_5181.json
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5063.dng
inflating: rawnerf/scenes/candle/raw/IMG_5213.dng
inflating: rawnerf/scenes/candle/raw/IMG_5222.json
inflating: rawnerf/scenes/candle/raw/IMG_5179.json
inflating: rawnerf/scenes/candle/raw/IMG 5057.dng
inflating: rawnerf/scenes/candle/raw/IMG 5210.json
inflating: rawnerf/scenes/candle/raw/IMG 5157.json
inflating: rawnerf/scenes/candle/raw/IMG_5111.dng
inflating: rawnerf/scenes/candle/raw/IMG 5198.dng
inflating: rawnerf/scenes/candle/raw/IMG_5060.json
inflating: rawnerf/scenes/candle/raw/IMG_5224.dng
inflating: rawnerf/scenes/candle/raw/IMG_5161.dng
inflating: rawnerf/scenes/candle/raw/IMG_5065.json
inflating: rawnerf/scenes/candle/raw/IMG_5239.json
inflating: rawnerf/scenes/candle/raw/IMG_5196.json
inflating: rawnerf/scenes/candle/raw/IMG_5061.dng
inflating: rawnerf/scenes/candle/raw/IMG_5057.json
inflating: rawnerf/scenes/candle/raw/IMG_5065.dng
inflating: rawnerf/scenes/candle/raw/IMG_5073.dng
inflating: rawnerf/scenes/candle/raw/IMG 5151.json
inflating: rawnerf/scenes/candle/raw/IMG 5109.dng
inflating: rawnerf/scenes/candle/raw/IMG 5220.dng
inflating: rawnerf/scenes/candle/raw/IMG_5086.json
inflating: rawnerf/scenes/candle/raw/IMG_5187.json
inflating: rawnerf/scenes/candle/raw/IMG_5185.dng
inflating: rawnerf/scenes/candle/raw/IMG_5237.dng
inflating: rawnerf/scenes/candle/raw/IMG_5095.json
inflating: rawnerf/scenes/candle/raw/IMG_5205.json
inflating: rawnerf/scenes/candle/raw/IMG_5221.json
inflating: rawnerf/scenes/candle/raw/IMG_5148.dng
inflating: rawnerf/scenes/candle/raw/IMG_5220.json
inflating: rawnerf/scenes/candle/raw/IMG_5090.dng
inflating: rawnerf/scenes/candle/raw/IMG_5049.dng
inflating: rawnerf/scenes/candle/raw/IMG_5165.json
inflating: rawnerf/scenes/candle/raw/IMG 5082.json
inflating: rawnerf/scenes/candle/raw/IMG 5227.dng
inflating: rawnerf/scenes/candle/raw/IMG 5214.dng
inflating: rawnerf/scenes/candle/raw/IMG_5208.json
inflating: rawnerf/scenes/candle/raw/IMG_5214.json
inflating: rawnerf/scenes/candle/raw/IMG_5066.json
inflating: rawnerf/scenes/candle/raw/IMG_5221.dng
inflating: rawnerf/scenes/candle/raw/IMG_5118.json
inflating: rawnerf/scenes/candle/raw/IMG_5102.json
inflating: rawnerf/scenes/candle/raw/IMG_5163.dng
inflating: rawnerf/scenes/candle/raw/IMG_5067.json
inflating: rawnerf/scenes/candle/raw/IMG_5180.json
inflating: rawnerf/scenes/candle/raw/IMG_5116.json
inflating: rawnerf/scenes/candle/raw/IMG_5229.json
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5102.dng
inflating: rawnerf/scenes/candle/raw/IMG_5198.json
inflating: rawnerf/scenes/candle/raw/IMG_5107.json
inflating: rawnerf/scenes/candle/raw/IMG_5231.dng
inflating: rawnerf/scenes/candle/raw/IMG 5150.json
inflating: rawnerf/scenes/candle/raw/IMG 5184.json
inflating: rawnerf/scenes/candle/raw/IMG 5067.dng
inflating: rawnerf/scenes/candle/raw/IMG_5230.json
inflating: rawnerf/scenes/candle/raw/IMG 5193.dng
inflating: rawnerf/scenes/candle/raw/IMG_5211.dng
inflating: rawnerf/scenes/candle/raw/IMG_5187.dng
inflating: rawnerf/scenes/candle/raw/IMG_5175.json
inflating: rawnerf/scenes/candle/raw/IMG_5110.json
inflating: rawnerf/scenes/candle/raw/IMG_5075.dng
inflating: rawnerf/scenes/candle/raw/IMG_5083.dng
inflating: rawnerf/scenes/candle/raw/IMG_5180.dng
inflating: rawnerf/scenes/candle/raw/IMG_5056.dng
inflating: rawnerf/scenes/candle/raw/IMG_5123.json
inflating: rawnerf/scenes/candle/raw/IMG_5122.json
inflating: rawnerf/scenes/candle/raw/IMG 5052.dng
inflating: rawnerf/scenes/candle/raw/IMG 5056.json
inflating: rawnerf/scenes/candle/raw/IMG 5118.dng
inflating: rawnerf/scenes/candle/raw/IMG_5157.dng
inflating: rawnerf/scenes/candle/raw/IMG_5177.dng
inflating: rawnerf/scenes/candle/raw/IMG_5112.json
inflating: rawnerf/scenes/candle/raw/IMG_5216.dng
inflating: rawnerf/scenes/candle/raw/IMG_5103.json
inflating: rawnerf/scenes/candle/raw/IMG_5105.dng
inflating: rawnerf/scenes/candle/raw/IMG_5146.json
inflating: rawnerf/scenes/candle/raw/IMG_5202.dng
inflating: rawnerf/scenes/candle/raw/IMG_5176.dng
inflating: rawnerf/scenes/candle/raw/IMG_5121.json
inflating: rawnerf/scenes/candle/raw/IMG_5083.json
inflating: rawnerf/scenes/candle/raw/IMG_5166.json
inflating: rawnerf/scenes/candle/raw/IMG 5054.json
inflating: rawnerf/scenes/candle/raw/IMG 5144.dng
inflating: rawnerf/scenes/candle/raw/IMG 5217.json
inflating: rawnerf/scenes/candle/raw/IMG_5151.dng
inflating: rawnerf/scenes/candle/raw/IMG_5117.json
inflating: rawnerf/scenes/candle/raw/IMG_5097.dng
inflating: rawnerf/scenes/candle/raw/IMG_5215.dng
inflating: rawnerf/scenes/candle/raw/IMG_5049.json
inflating: rawnerf/scenes/candle/raw/IMG_5170.json
inflating: rawnerf/scenes/candle/raw/IMG_5054.dng
inflating: rawnerf/scenes/candle/raw/IMG_5162.json
inflating: rawnerf/scenes/candle/raw/IMG_5172.dng
inflating: rawnerf/scenes/candle/raw/IMG_5104.json
inflating: rawnerf/scenes/candle/raw/IMG_5175.dng
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5213.json
inflating: rawnerf/scenes/candle/raw/IMG_5053.dng
inflating: rawnerf/scenes/candle/raw/IMG_5190.json
inflating: rawnerf/scenes/candle/raw/IMG_5232.dng
inflating: rawnerf/scenes/candle/raw/IMG 5080.dng
inflating: rawnerf/scenes/candle/raw/IMG 5156.json
inflating: rawnerf/scenes/candle/raw/IMG 5093.json
inflating: rawnerf/scenes/candle/raw/IMG_5055.dng
inflating: rawnerf/scenes/candle/raw/IMG 5181.dng
inflating: rawnerf/scenes/candle/raw/IMG_5117.dng
inflating: rawnerf/scenes/candle/raw/IMG_5064.dng
inflating: rawnerf/scenes/candle/raw/IMG_5219.json
inflating: rawnerf/scenes/candle/raw/IMG_5239.dng
inflating: rawnerf/scenes/candle/raw/IMG_5145.dng
inflating: rawnerf/scenes/candle/raw/IMG_5100.dng
inflating: rawnerf/scenes/candle/raw/IMG_5189.dng
inflating: rawnerf/scenes/candle/raw/IMG_5159.json
inflating: rawnerf/scenes/candle/raw/IMG_5064.json
inflating: rawnerf/scenes/candle/raw/IMG_5183.json
inflating: rawnerf/scenes/candle/raw/IMG 5161.json
inflating: rawnerf/scenes/candle/raw/IMG 5192.json
inflating: rawnerf/scenes/candle/raw/IMG 5164.dng
inflating: rawnerf/scenes/candle/raw/IMG_5107.dng
inflating: rawnerf/scenes/candle/raw/IMG_5062.dng
inflating: rawnerf/scenes/candle/raw/IMG_5172.json
inflating: rawnerf/scenes/candle/raw/IMG_5101.json
inflating: rawnerf/scenes/candle/raw/IMG_5119.json
inflating: rawnerf/scenes/candle/raw/IMG_5206.dng
inflating: rawnerf/scenes/candle/raw/IMG_5092.dng
inflating: rawnerf/scenes/candle/raw/IMG_5201.json
inflating: rawnerf/scenes/candle/raw/IMG_5074.dng
inflating: rawnerf/scenes/candle/raw/IMG_5211.json
inflating: rawnerf/scenes/candle/raw/IMG_5173.json
inflating: rawnerf/scenes/candle/raw/IMG_5189.json
inflating: rawnerf/scenes/candle/raw/IMG 5144.json
inflating: rawnerf/scenes/candle/raw/IMG 5237.json
inflating: rawnerf/scenes/candle/raw/IMG 5206.json
inflating: rawnerf/scenes/candle/raw/IMG_5233.json
inflating: rawnerf/scenes/candle/raw/IMG_5108.dng
inflating: rawnerf/scenes/candle/raw/IMG_5123.dng
inflating: rawnerf/scenes/candle/raw/IMG_5150.dng
inflating: rawnerf/scenes/candle/raw/IMG_5060.dng
inflating: rawnerf/scenes/candle/raw/IMG_5226.dng
inflating: rawnerf/scenes/candle/raw/IMG_5075.json
inflating: rawnerf/scenes/candle/raw/IMG_5232.json
inflating: rawnerf/scenes/candle/raw/IMG_5115.dng
inflating: rawnerf/scenes/candle/raw/IMG_5194.dng
inflating: rawnerf/scenes/candle/raw/IMG_5081.dng
```

```
inflating: rawnerf/scenes/candle/raw/IMG_5051.dng
inflating: rawnerf/scenes/candle/raw/IMG_5094.json
inflating: rawnerf/scenes/candle/raw/IMG_5079.dng
inflating: rawnerf/scenes/candle/raw/IMG_5166.dng
inflating: rawnerf/scenes/candle/raw/IMG 5098.dng
inflating: rawnerf/scenes/candle/raw/IMG 5058.dng
inflating: rawnerf/scenes/candle/raw/IMG 5215.json
inflating: rawnerf/scenes/candle/raw/IMG_5101.dng
inflating: rawnerf/scenes/candle/raw/IMG 5236.dng
inflating: rawnerf/scenes/candle/raw/IMG_5072.dng
inflating: rawnerf/scenes/candle/raw/IMG_5079.json
inflating: rawnerf/scenes/candle/raw/IMG_5203.dng
inflating: rawnerf/scenes/candle/raw/IMG_5170.dng
inflating: rawnerf/scenes/candle/raw/IMG_5195.json
inflating: rawnerf/scenes/candle/raw/IMG_5080.json
inflating: rawnerf/scenes/candle/poses_bounds.npy
creating: rawnerf/scenes/candle/sparse/
creating: rawnerf/scenes/candle/sparse/0/
inflating: rawnerf/scenes/candle/sparse/0/points3D.bin
inflating: rawnerf/scenes/candle/sparse/0/images.bin
inflating: rawnerf/scenes/candle/sparse/0/cameras.bin
inflating: rawnerf/scenes/candle/sparse/0/project.ini
creating: rawnerf/scenes/candle/images/
inflating: rawnerf/scenes/candle/images/IMG 5088.JPG
inflating: rawnerf/scenes/candle/images/IMG_5066.JPG
inflating: rawnerf/scenes/candle/images/IMG_5090.JPG
inflating: rawnerf/scenes/candle/images/IMG_5107.JPG
inflating: rawnerf/scenes/candle/images/IMG_5076.JPG
inflating: rawnerf/scenes/candle/images/IMG_5054.JPG
inflating: rawnerf/scenes/candle/images/IMG_5120.JPG
inflating: rawnerf/scenes/candle/images/IMG_5105.JPG
inflating: rawnerf/scenes/candle/images/IMG_5061.JPG
inflating: rawnerf/scenes/candle/images/IMG_5112.JPG
inflating: rawnerf/scenes/candle/images/IMG_5080.JPG
inflating: rawnerf/scenes/candle/images/IMG 5117.JPG
inflating: rawnerf/scenes/candle/images/IMG 5069.JPG
inflating: rawnerf/scenes/candle/images/IMG 5053.JPG
inflating: rawnerf/scenes/candle/images/IMG_5081.JPG
inflating: rawnerf/scenes/candle/images/IMG_5114.JPG
inflating: rawnerf/scenes/candle/images/IMG_5067.JPG
inflating: rawnerf/scenes/candle/images/IMG_5055.JPG
inflating: rawnerf/scenes/candle/images/IMG_5077.JPG
inflating: rawnerf/scenes/candle/images/IMG_5121.JPG
inflating: rawnerf/scenes/candle/images/IMG_5071.JPG
inflating: rawnerf/scenes/candle/images/IMG_5052.JPG
inflating: rawnerf/scenes/candle/images/IMG_5096.JPG
inflating: rawnerf/scenes/candle/images/IMG_5123.JPG
inflating: rawnerf/scenes/candle/images/IMG_5108.JPG
```

```
inflating: rawnerf/scenes/candle/images/IMG_5078.JPG
inflating: rawnerf/scenes/candle/images/IMG_5049.JPG
inflating: rawnerf/scenes/candle/images/IMG_5098.JPG
inflating: rawnerf/scenes/candle/images/IMG_5059.JPG
inflating: rawnerf/scenes/candle/images/IMG 5084.JPG
inflating: rawnerf/scenes/candle/images/IMG 5110.JPG
inflating: rawnerf/scenes/candle/images/IMG 5074.JPG
inflating: rawnerf/scenes/candle/images/IMG_5050.JPG
inflating: rawnerf/scenes/candle/images/IMG 5064.JPG
inflating: rawnerf/scenes/candle/images/IMG_5100.JPG
inflating: rawnerf/scenes/candle/images/IMG_5048.JPG
inflating: rawnerf/scenes/candle/images/IMG_5057.JPG
inflating: rawnerf/scenes/candle/images/IMG_5086.JPG
inflating: rawnerf/scenes/candle/images/IMG_5119.JPG
inflating: rawnerf/scenes/candle/images/IMG_5122.JPG
inflating: rawnerf/scenes/candle/images/IMG_5075.JPG
inflating: rawnerf/scenes/candle/images/IMG_5095.JPG
inflating: rawnerf/scenes/candle/images/IMG_5058.JPG
inflating: rawnerf/scenes/candle/images/IMG_5062.JPG
inflating: rawnerf/scenes/candle/images/IMG 5051.JPG
inflating: rawnerf/scenes/candle/images/IMG 5063.JPG
inflating: rawnerf/scenes/candle/images/IMG 5083.JPG
inflating: rawnerf/scenes/candle/images/IMG_5085.JPG
inflating: rawnerf/scenes/candle/images/IMG 5070.JPG
inflating: rawnerf/scenes/candle/images/IMG_5073.JPG
inflating: rawnerf/scenes/candle/images/IMG_5087.JPG
inflating: rawnerf/scenes/candle/images/IMG_5101.JPG
inflating: rawnerf/scenes/candle/images/IMG_5109.JPG
inflating: rawnerf/scenes/candle/images/IMG_5116.JPG
inflating: rawnerf/scenes/candle/images/IMG_5089.JPG
inflating: rawnerf/scenes/candle/images/IMG_5092.JPG
inflating: rawnerf/scenes/candle/images/IMG_5118.JPG
inflating: rawnerf/scenes/candle/images/IMG_5102.JPG
inflating: rawnerf/scenes/candle/images/IMG_5111.JPG
inflating: rawnerf/scenes/candle/images/IMG 5056.JPG
inflating: rawnerf/scenes/candle/images/IMG 5103.JPG
inflating: rawnerf/scenes/candle/images/IMG 5106.JPG
inflating: rawnerf/scenes/candle/images/IMG_5091.JPG
inflating: rawnerf/scenes/candle/images/IMG_5060.JPG
inflating: rawnerf/scenes/candle/images/IMG_5047.JPG
inflating: rawnerf/scenes/candle/images/IMG_5099.JPG
inflating: rawnerf/scenes/candle/images/IMG_5079.JPG
inflating: rawnerf/scenes/candle/images/IMG_5093.JPG
inflating: rawnerf/scenes/candle/images/IMG_5072.JPG
inflating: rawnerf/scenes/candle/images/IMG_5082.JPG
inflating: rawnerf/scenes/candle/images/IMG_5097.JPG
inflating: rawnerf/scenes/candle/images/IMG_5068.JPG
inflating: rawnerf/scenes/candle/images/IMG_5065.JPG
```

```
inflating: rawnerf/scenes/candle/images/IMG_5115.JPG
inflating: rawnerf/scenes/candle/images/IMG_5104.JPG
inflating: rawnerf/scenes/candle/images/IMG_5113.JPG
inflating: rawnerf/scenes/candle/images/IMG 5094.JPG
inflating: rawnerf/scenes/candle/colmap output.txt
creating: rawnerf/scenes/candle/test preds/
inflating: rawnerf/scenes/candle/test preds/color 021.png
inflating: rawnerf/scenes/candle/test_preds/color_000.png
inflating: rawnerf/scenes/candle/test preds/color 019.png
inflating: rawnerf/scenes/candle/test_preds/color_003.png
inflating: rawnerf/scenes/candle/test_preds/color_020.png
inflating: rawnerf/scenes/candle/test_preds/color_018.png
inflating: rawnerf/scenes/candle/test_preds/color_006.png
inflating: rawnerf/scenes/candle/test_preds/color_001.png
inflating: rawnerf/scenes/candle/test_preds/color_017.png
inflating: rawnerf/scenes/candle/test_preds/color_010.png
inflating: rawnerf/scenes/candle/test_preds/color_015.png
inflating: rawnerf/scenes/candle/test_preds/color_011.png
inflating: rawnerf/scenes/candle/test_preds/color_002.png
inflating: rawnerf/scenes/candle/test preds/color 016.png
inflating: rawnerf/scenes/candle/test preds/color 005.png
inflating: rawnerf/scenes/candle/test preds/color 013.png
inflating: rawnerf/scenes/candle/test_preds/color_012.png
inflating: rawnerf/scenes/candle/test_preds/color_009.png
inflating: rawnerf/scenes/candle/test_preds/color_004.png
inflating: rawnerf/scenes/candle/test_preds/color_007.png
inflating: rawnerf/scenes/candle/test_preds/color_014.png
inflating: rawnerf/scenes/candle/test_preds/color_008.png
inflating: rawnerf/scenes/candle/database.db
creating: rawnerf/testscenes/
creating: rawnerf/testscenes/officetest/
creating: rawnerf/testscenes/officetest/hdrplus_test/
inflating: rawnerf/testscenes/officetest/hdrplus_test/final.jpg
inflating: rawnerf/testscenes/officetest/hdrplus_test/merged.dng
creating: rawnerf/testscenes/officetest/raw/
creating: rawnerf/testscenes/officetest/raw/train/
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6386.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6435.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6368.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6380.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6354.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6421.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6402.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6369.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6332.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6383.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6348.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6394.json
```

```
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6440.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6442.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6396.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6393.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6433.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6383.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6350.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6368.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6414.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6359.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6412.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6377.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6398.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6411.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6380.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6390.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6397.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6353.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6338.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6388.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6400.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6442.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6391.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6341.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6385.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6381.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6408.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6398.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6366.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6364.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6401.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6346.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6351.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6382.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6388.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6427.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6431.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6334.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6395.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6354.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6439.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6357.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6337.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6406.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6359.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6370.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6410.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6343.json
```

```
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6424.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6373.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6437.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6352.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6441.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6394.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6425.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6338.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6436.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6364.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6436.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6352.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6351.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6418.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6379.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6397.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6341.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6343.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6336.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6385.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6348.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6437.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6393.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6415.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6439.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6418.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6434.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6404.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6362.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6412.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6438.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6339.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6406.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6431.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6435.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6363.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6378.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6332.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6410.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6337.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6430.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6409.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6425.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6345.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6365.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6335.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6414.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6429.dng
```

```
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6365.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6382.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6402.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6415.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6403.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6407.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6387.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6430.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6356.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6342.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6346.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6428.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6421.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6389.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6422.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6374.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6420.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6342.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6386.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6409.dng
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inflating: rawnerf/testscenes/officetest/raw/train/IMG 6426.json
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inflating: rawnerf/testscenes/officetest/raw/train/IMG_6350.json
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inflating: rawnerf/testscenes/officetest/raw/train/IMG 6399.json
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inflating: rawnerf/testscenes/officetest/raw/train/IMG_6357.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6389.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6363.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6416.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6358.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6333.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6340.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6347.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6371.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6392.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6344.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6429.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6345.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6362.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6374.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6384.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6440.json
```

```
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6349.dng
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inflating: rawnerf/testscenes/officetest/raw/train/IMG_6334.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6423.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6419.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6422.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6381.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6420.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6371.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6361.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6367.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6360.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6344.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6392.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6433.dng
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inflating: rawnerf/testscenes/officetest/raw/train/IMG_6426.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6432.dng
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inflating: rawnerf/testscenes/officetest/raw/train/IMG 6427.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6416.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6355.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6349.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6335.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6405.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6378.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6404.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6428.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6391.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6376.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6417.json
```

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inflating: rawnerf/testscenes/officetest/raw/train/IMG_6369.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6405.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6377.json
inflating: rawnerf/testscenes/officetest/raw/train/IMG 6438.dng
inflating: rawnerf/testscenes/officetest/raw/train/IMG_6373.json
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inflating: rawnerf/testscenes/officetest/raw/train/IMG_6372.dng
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creating: rawnerf/testscenes/officetest/raw/test/fast/
inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG 6443.json
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inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG_6443.dng
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inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG_6445.json
inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG 6452.json
inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG 6449.json
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inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG_6444.json
inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG_6451.dng
inflating: rawnerf/testscenes/officetest/raw/test/fast/IMG_6445.dng
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inflating: rawnerf/testscenes/officetest/raw/test/IMG_6453.json
creating: rawnerf/testscenes/officetest/raw/test/slow/
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6513.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6547.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6459.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6468.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6507.json
```

```
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6546.dng
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6504.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6496.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6491.json
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6475.dng
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6525.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6518.dng
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6500.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6520.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6537.dng
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6509.dng
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6506.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6523.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6513.dng
```

```
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6503.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6537.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6514.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6534.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6472.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6552.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6501.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6533.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6463.dng
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6535.json
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6543.json
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6516.dng
```

```
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6463.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6464.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6484.json
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6498.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6477.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6466.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6488.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6552.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6453.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6471.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6542.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6492.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6510.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6519.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6474.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6478.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6530.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6486.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6495.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6547.json
```

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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6466.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6532.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6529.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6540.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6531.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6490.json
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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6512.json
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```

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inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG_6467.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6515.dng
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6479.json
inflating: rawnerf/testscenes/officetest/raw/test/slow/IMG 6506.dng
inflating: rawnerf/testscenes/officetest/raw/test/IMG_6443.dng
inflating: rawnerf/testscenes/officetest/raw/test/IMG_6453.dng
inflating: rawnerf/testscenes/officetest/poses_bounds.npy
creating: rawnerf/testscenes/officetest/sparse/
creating: rawnerf/testscenes/officetest/sparse/0/
inflating: rawnerf/testscenes/officetest/sparse/0/points3D.bin
inflating: rawnerf/testscenes/officetest/sparse/0/images.bin
inflating: rawnerf/testscenes/officetest/sparse/0/cameras.bin
inflating: rawnerf/testscenes/officetest/sparse/0/project.ini
inflating: rawnerf/testscenes/officetest/colmap_output.txt
inflating: rawnerf/testscenes/officetest/database.db
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creating: rawnerf/testscenes/yuccatest/hdrplus test/
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inflating: rawnerf/testscenes/yuccatest/hdrplus test/merged.dng
creating: rawnerf/testscenes/yuccatest/raw/
creating: rawnerf/testscenes/yuccatest/raw/train/
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```

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inflating: rawnerf/testscenes/yuccatest/raw/train/IMG_5721.json
inflating: rawnerf/testscenes/yuccatest/raw/train/IMG_5719.dng
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inflating: rawnerf/testscenes/yuccatest/raw/train/IMG 5697.dng
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inflating: rawnerf/testscenes/yuccatest/raw/train/IMG 5656.json
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inflating: rawnerf/testscenes/yuccatest/raw/train/IMG_5652.json
inflating: rawnerf/testscenes/yuccatest/raw/train/IMG_5630.dng
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inflating: rawnerf/testscenes/yuccatest/raw/train/IMG_5662.json
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inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6620.dng
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inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6633.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6645.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6627.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6603.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6618.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6600.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6593.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6580.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6607.json
```

```
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6567.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6600.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6596.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6649.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6623.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6628.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6650.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6627.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6561.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6641.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6594.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6566.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6578.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6602.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6653.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6595.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6604.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6597.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6576.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6569.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6643.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6631.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6635.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6615.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6652.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6559.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6621.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6653.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6599.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6598.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6573.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6568.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6640.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6628.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6609.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6555.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6583.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6555.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6642.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6593.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6652.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6594.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6610.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6626.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6639.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6654.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6562.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6585.json
```

```
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6645.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6578.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6585.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6624.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6630.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6607.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6640.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6589.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6648.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6618.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6563.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6630.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6634.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6586.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6579.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6583.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6581.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6565.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6591.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6557.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6614.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6614.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6646.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6613.json
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inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6587.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6635.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6609.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6577.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6591.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6587.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6584.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6563.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6608.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6642.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6615.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6606.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6632.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6572.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6608.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6637.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6648.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6643.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6647.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6556.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6567.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6558.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6588.dng
```

```
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6604.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6584.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6623.dng
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6562.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG 6611.json
inflating: rawnerf/testscenes/pianotest/raw/train/IMG_6592.dng
creating: rawnerf/testscenes/pianotest/raw/test/
creating: rawnerf/testscenes/pianotest/raw/test/fast/
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6663.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6659.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6660.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6656.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6658.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6665.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6664.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6665.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6664.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6659.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6660.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6662.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6657.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6661.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6657.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6663.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6656.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG 6661.dng
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6662.json
inflating: rawnerf/testscenes/pianotest/raw/test/fast/IMG_6658.json
inflating: rawnerf/testscenes/pianotest/raw/test/IMG_6666.json
inflating: rawnerf/testscenes/pianotest/raw/test/IMG_6656.json
inflating: rawnerf/testscenes/pianotest/raw/test/IMG_6666.dng
creating: rawnerf/testscenes/pianotest/raw/test/slow/
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6716.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6757.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6723.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6753.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6711.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6742.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6681.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6722.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6715.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6706.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6703.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6717.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6722.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6742.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6755.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6681.dng
```

```
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6758.dng
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inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6745.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6768.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6694.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6702.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6719.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6717.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6673.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6682.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6703.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6727.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6759.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6739.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6691.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6701.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6730.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6696.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6755.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6687.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6735.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6752.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6723.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6684.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6749.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6699.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6686.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6692.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6743.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6698.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6724.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6709.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6752.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6693.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6704.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6705.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6666.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6748.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6715.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6675.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6685.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6764.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6731.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6733.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6729.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6692.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6679.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6680.json
```

```
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6669.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6759.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6753.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6666.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6676.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6690.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6689.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6689.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6693.dng
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inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6721.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6714.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6743.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6707.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6744.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6764.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6751.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6690.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6732.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6737.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6735.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6746.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6738.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6756.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6739.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6707.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6718.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6758.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6667.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6727.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6710.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6720.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6683.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6677.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6760.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6748.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6734.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6731.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6728.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6708.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6709.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6688.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6714.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6680.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6699.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6754.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6668.dng
```

```
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6669.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6676.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6675.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6698.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6763.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6711.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6678.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6716.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6694.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6736.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6721.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6767.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6761.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6719.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6756.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6671.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6700.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6704.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6768.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6766.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6718.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6747.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6733.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6751.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6760.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6685.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6710.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6738.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6724.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6697.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6726.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6700.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6766.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6726.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6720.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6682.dng
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inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6687.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6670.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6741.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6763.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6678.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6712.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6701.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6734.json
```

```
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6713.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6728.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6697.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6695.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6679.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6762.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6683.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6745.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6670.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6765.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6750.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6672.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6746.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6672.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6757.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6686.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6725.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6688.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6712.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6691.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6747.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6740.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6696.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6702.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6671.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6765.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6667.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6749.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6761.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6668.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6713.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6767.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6677.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6730.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG 6673.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6736.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6732.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6674.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6725.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6684.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6740.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6706.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6762.dng
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6674.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6708.json
inflating: rawnerf/testscenes/pianotest/raw/test/slow/IMG_6750.dng
inflating: rawnerf/testscenes/pianotest/raw/test/IMG_6656.dng
inflating: rawnerf/testscenes/pianotest/poses_bounds.npy
```

```
creating: rawnerf/testscenes/pianotest/sparse/
  creating: rawnerf/testscenes/pianotest/sparse/0/
  inflating: rawnerf/testscenes/pianotest/sparse/0/points3D.bin
  inflating: rawnerf/testscenes/pianotest/sparse/0/images.bin
  inflating: rawnerf/testscenes/pianotest/sparse/0/cameras.bin
  inflating: rawnerf/testscenes/pianotest/sparse/0/project.ini
  inflating: rawnerf/testscenes/pianotest/colmap output.txt
  inflating: rawnerf/testscenes/pianotest/database.db
--2023-10-19 03:04:08--
https://www.pauldebevec.com/Research/HDR/SourceImages/Memorial_SourceImages.zip
Resolving www.pauldebevec.com (www.pauldebevec.com)... 173.254.30.120
Connecting to www.pauldebevec.com (www.pauldebevec.com) | 173.254.30.120 | :443...
connected.
HTTP request sent, awaiting response... 200 OK
Length: 9227471 (8.8M) [application/zip]
Saving to: 'Memorial_SourceImages.zip'
Memorial SourceImag 100%[===========] 8.80M 22.3MB/s
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  inflating: hdr/memorial0063.png
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  inflating: hdr/memorial0075.png
  inflating: hdr/memorial0076.png
  inflating: hdr/memorial.hdr_image_list.txt
  inflating: hdr/memorial.hdr
  inflating: hdr/README.txt
  inflating: hdr/memorial0061.png
  inflating: hdr/memorial0062.png
Downloading...
From: https://drive.google.com/uc?id=1bGFlFUdeVThzXSLQnOJ3PVUxtpt4tRua
To: /content/sol.zip
100% 707M/707M [00:08<00:00, 85.5MB/s]
Archive: sol.zip
   creating: sol/
```

```
inflating: sol/hdr.npy
inflating: __MACOSX/sol/._hdr.npy
inflating: sol/demosaick.npy
inflating: __MACOSX/sol/._demosaick.npy
inflating: sol/white_balance.npy
inflating: __MACOSX/sol/._white_balance.npy
inflating: sol/processed.npy
inflating: __MACOSX/sol/._processed.npy
inflating: sol/house_img.jpeg
inflating: __MACOSX/sol/._house_img.jpeg
inflating: sol/color_transform.npy
inflating: __MACOSX/sol/._color_transform.npy
```

1.2 Problem 1: Imaging Pipeline

Textbook Section: 2.2.4

In this problem, we will re-create part of the imaging pipeline, specifically demosaicking, white balancing, color transforms, and gamma encoding. By the end, you will be able to take in RAW images and output processed images. For each of the steps, we will suggest an implementation technique based on what was covered in Lecture 2.

We load one specific image at first for code correctness checks, but feel free to try new images from the dataset or images you capture yourself!

```
[5]: dng_file = "/content/rawnerf/scenes/windowlegovary/raw/IMG_6796.dng"
  meta_file = "/content/rawnerf/scenes/windowlegovary/raw/IMG_6796.json"

dng = rawpy.imread(dng_file)
  with open(meta_file, "r") as json_file:
      meta = json.load(json_file)
  raw_img = dng.raw_image # raw is now a numpy array

# Convert to between 0-1
  blacklevel = np.array(meta[0]['BlackLevel']).reshape(1, 1)
  whitelevel = np.array(meta[0]['WhiteLevel']).reshape(1, 1)
  raw_img = (raw_img - blacklevel) / (whitelevel - blacklevel)
```

Let's visualize the input (RAW images) and expected output (Processed images):

Lets start with the first step: demoisaicking. The function should take in a mosaicked image in the bayer pattern and return a RGB image. We discussed one way to do this in class: bilinear interpolation. This technique gets values for a pixel by averaging the values of its neighbors. However, the positions of a pixels neighbors are not the same for different channels. We've put the 2x2 pattern (RGGB in this case) for the raw image below. Let's start by visualizing the expected output:

```
[6]: def student_demosaicking(bayer_img_input):
         """Converts Bayer data into a full RGB image.
         Input data should be ndarray of shape [height, width] with 2x2 mosaic ⊔
      \hookrightarrow pattern:
             |red |green|
             _____
             |green|blue |
         Args:
             bayer_img: [H, W] numpy array. Contains values in the bayer pattern
         Returns:
             rqb_imq: [H,W,3] numpy array.
         Potential Implementation:
         [Lecture 2] A potential implementation is bilinear interpolation
         where each pixel value is averaged from its four neighbors. Where those
      \neg neighbors
         are located will vary based on the color you are trying to interpolate. Our
      ⇔code will
         sanity check bilinear interpolation.
         blue = np.zeros(raw_img.shape)
         red = np.zeros(raw_img.shape)
         green = np.zeros(raw_img.shape)
         red[0::2,0::2] = raw_img[0::2, 0::2]
         blue[1::2,1::2] = raw_img[1::2,1::2]
         green[0::2,1::2] = raw_img[0::2,1::2]
         green[1::2,0::2] = raw_img[1::2,0::2]
         kernel_RB = np.array([[0.25,0.5,0.25],[0.5,1,0.5],[0.25,0.5,0.25]])
         kernel_G = np.array([[0,0.25,0],[0.25,1,0.25],[0,0.25,0]])
         red_conv = scipy.signal.convolve2d(red, kernel_RB, boundary='wrap',_

mode='same')
```

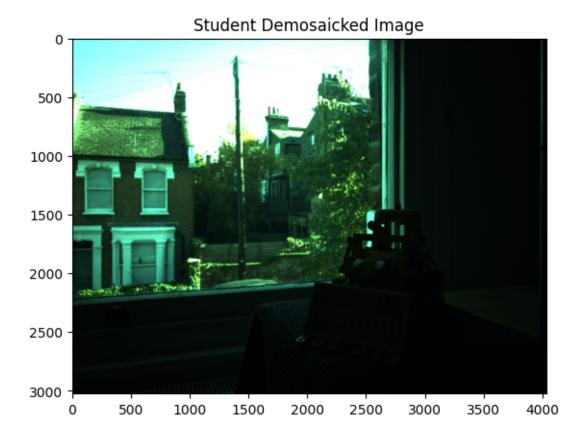
```
green_conv = scipy.signal.convolve2d(green, kernel_G, boundary='wrap',_
mode='same')
blue_conv = scipy.signal.convolve2d(blue, kernel_RB, boundary='wrap',_
mode='same')

RGB_image = np.stack((red_conv, green_conv, blue_conv), axis=-1)
return RGB_image
```

[7]: True

```
[8]: demosaicked_img = student_demosaicking(raw_img)
  demosaicked_img = np.where(demosaicked_img>1.0, 1.0, demosaicked_img)
  plt.imshow(demosaicked_img)
  plt.title("Student Demosaicked Image")
  plt.show()
```

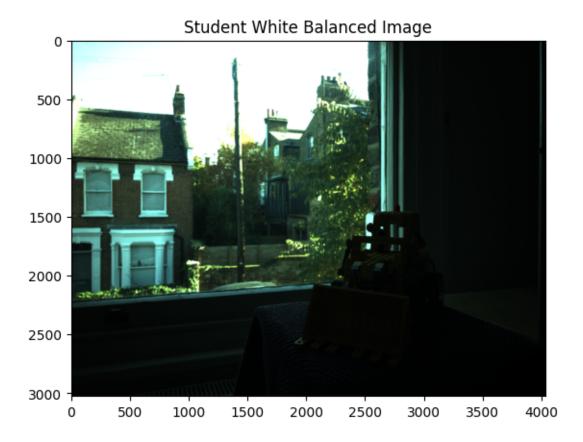
WARNING:matplotlib.image:Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



The next step is white balancing. A simple implementation is the gray-world assumption. This is what we will sanity check with the code correctness function. Once again, lets start by visualizing the expected output:

```
[9]: def student_white_balancing(demosaicked_image):
          """White balances an image.
          Arqs:
              demosaicked_image: [H,W,3] numpy array containing RGB values
          Returns:
              white_balanced_img: [H, W, 3] numpy array
          Potential Implementation:
          [Lecture 2] Two common implementations are the gray-world assumption or the
          white-world assumption. Both can be implemented using a matrix
       \neg multiplication.
          Our code will sanity check the gray-world assumption.
          R_avg = np.mean(demosaicked_image[:,:,0])
          G_avg = np.mean(demosaicked_image[:,:,1])
          B_avg = np.mean(demosaicked_image[:,:,2])
          matrix = np.array([[G_avg/R_avg, 0, 0],
                            [0, 1, 0],
                            [0, 0, G_avg/B_avg]])
          image reshaped = demosaicked image.reshape(-1, 3)
          result = np.dot(matrix,image_reshaped.T).T
          white_balanced_img = result.reshape(demosaicked_image.shape)
          return white_balanced_img
[10]: check_code_correctness(student_white_balancing, demosaicked_img, np.load('/
       ⇔content/sol/white_balance.npy'))
[10]: True
[11]: white_balanced_img = student_white_balancing(demosaicked_img)
      plt.imshow(white_balanced_img)
      plt.title("Student White Balanced Image")
      plt.show()
```

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



Next, we have to convert to RGB space. We will provide the individual matrices to convert between spaces, but you will have to choose how to apply them. Let's start by visualizing the expected output image.

We've given you two matrices here: one converts from xyz color space to camera color space. The other converts from RGB color space to xyz color space. How can we combine these into a matrix that converts from camera space to RGB space?

```
[13]: def student_color_transform(white_balanced_image):
          """Color transform from camera space to rgb
          Arqs:
              white_balanced_image: [H,W,3] numpy array in camera color space
          Returns:
              rgb_image: [H,W,3] numpy array in RGB color space
          Potential Implementation:
          How would you combine the provided matrices to get the image into RGB space?
          11 11 11
          matrix = np.matmul(xyz2cam,rgb2xyz)
          inv_matrix = np.linalg.inv(matrix)
          image_reshaped = white_balanced_image.reshape(-1, 3)
          result = np.matmul(inv_matrix,image_reshaped.T).T
          rgb_image = result.reshape(white_balanced_image.shape)
          return rgb_image
[14]: check_code_correctness(student_color_transform, white_balanced_img, np.load('/
       ⇔content/sol/color_transform.npy'))
[14]: True
[15]: rgb_img = student_color_transform(white_balanced_img)
      plt.imshow(rgb_img)
      plt.title("Student Color Transformed Image")
      plt.show()
```

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



The last step is gamma encoding. The expected output:

```
[16]: def student_gamma_encode(color_transformed_image):
    """Gamma encodes an image.

Args:
    color_transformed_image: [H,W,3] numpy array containing RGB values

Returns:

gamma_encoded_img: [H,W,3] numpy array

Potential Implementation:

[Lecture 2] For this section, you will need a value for the power. As□

discussed
    in class, a good value is lambda = 1 / 2.2. Try experimenting with□

different values.

Our code will sanity check with the suggested lambda.
```

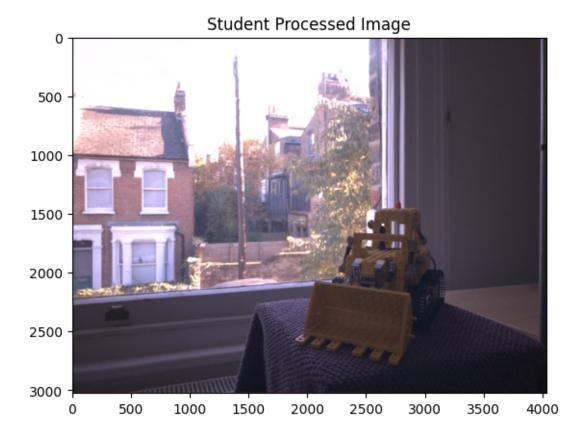
```
gamma_decoded_img = np.where(gamma_decoded_img>1.0, 1.0, gamma_decoded_img)
gamma_decoded_img = np.where(gamma_decoded_img<0.0, 0.0, gamma_decoded_img)
gamma_decoded_img = np.power(color_transformed_image, 1.0 / 2.2)

color_transformed_image = np.where(color_transformed_image>1.0, 1.0, u)
color_transformed_image)
color_transformed_image = np.where(color_transformed_image<0.0, 0.0, u)
color_transformed_image)
gamma_decoded_img = np.power(color_transformed_image, 1.0 / 2.2)

return gamma_decoded_img
```

[17]: True

```
[18]: processed_image = student_gamma_encode(rgb_img)
    plt.imshow(processed_image)
    plt.title("Student Processed Image")
    plt.show()
```



If you tried any new techniques, briefly explain them here:

1.3 Problem 2: Denoising

In class, we discussed how the imaging pipeline is not perfect: there are multiple sources of noise including Dark Current, ADC noise, and read noise. In this problem, we will follow the steps in Lecture 3 to estimate these various types of noise. We'll start by estimating the dark current then estimate gain and the ADC noise.

We'll set the parameters of the noise ourselves and then try to estimate them and see how close we get. Let's start by setting up some helper functions:

The input of this section is parameters for various types of noise and our expected outputs are to estimate these parameters with high accuracy.

```
[19]: # Set parameters:

qe = 1 # Quantam efficiency
D = 0.05 # Dark Current
sigma_read = 0.03 # Std Dev. of read noise
sigma_adc = 0.03 # Std Dev of ADC noise
g = 1 # Gain
#exposure is qe
```

```
[20]: def N_photon_detections(t, alpha, flux):
    return np.random.poisson(t * alpha * flux)

def N_phantom_detections(t, D):
    return np.random.poisson(t * D)

# Total number of detections
# t - exposure time, D - dark current
def N_detections(t, alpha, flux, D):
    return np.random.poisson(t*(alpha * flux + D), size = flux.shape)

def n_read(sigma_read):
    return np.random.normal(scale=sigma_read)

def n_adc(sigma_adc):
    return np.random.normal(scale=sigma_adc)
```

To estimate scene flux, we can load a grayscale image and then use the values as flux. Flux should be a [H,W] array. Try implementing an image with 0 flux, or various levels of gray flux. We'll need them in the estimation process.

```
[21]: # Returns flux from input image
    def image_flux(img_path):
        gray_img = np.array(Image.open(img_path).convert("L"))
        flux = (255 - gray_img) / 255
        return flux

# Returns image with 0 flux everywhere

def zero_flux(size):
        flux = np.zeros(size)
        return flux

# Returns image with gray_level flux everywhere

def gray_level_flux(size, gray_level):
        flux = gray_level * np.ones(size)
        return flux
```

Now, lets implement functions to calculate image values and statistics. We've implemented another function as well named "set_vals". It takes in values for D, quantam e efficiency, sigma read, and sigma adc and set the global values for these variables. Any values that are not explicitly set are kept the same. You will need to call this function later.

```
[22]: def set_vals(D_val=None, sigma_read_val=None, sigma_adc_val=None, qe_val=None,
       ⇔g_val=None):
          if D_val is not None:
              global D
              D = D_val
          if qe_val is not None:
              global qe
              qe = qe_val
          if sigma_read_val is not None:
              global sigma_read
              sigma_read = sigma_read_val
          if sigma_adc_val is not None:
              global sigma_adc
              sigma_adc = sigma_adc_val
          if g_val is not None:
              global g
              g = g_val
      # Get an image reading given the exposure and flux of the scene
      def student_get_I(t, flux):
          I = N_{detections}(t,qe,flux,D) * g + n_{read}(sigma_{read}) * g + L
       →n_adc(sigma_adc)
          return I
      # Estimate mean of image reading given exposure and flux
      def student_get_E_I(t, flux):
```

```
E_I = t * (qe * flux + D) * g
return E_I

# Estimate variance of image reading given exposure and flux

def student_get_var_I(t, flux):
    var_I = t * (qe * flux + D) * (g**2) + (sigma_read**2) * (g**2) +
    (sigma_adc**2)
    return var_I
```

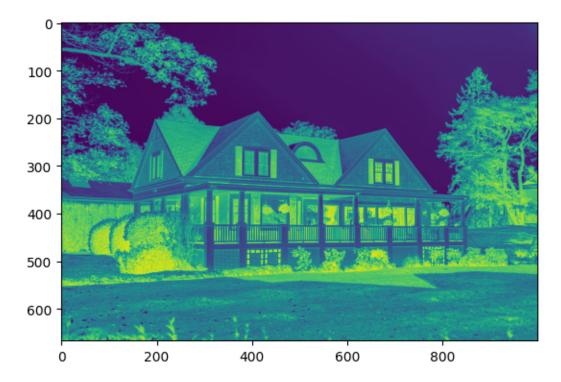
Lets see how our images "I" look:

```
[23]: I_hat = student_get_I(10000, image_flux('/content/sol/house_img.jpeg')) # Try

→ playing with the time to see how it looks

plt.imshow(I_hat)

plt.show()
```



Now that we have these helper functions, lets start by estimating dark current. We ideally want to get multiple samples that we can average. The N variable denotes how many samples we should average to get our final number.

```
[24]: def student_estimate_dark_current(size, N=100):
    t = 1e20
    I_values = np.array([student_get_I(t, zero_flux(size)) for _ in range(N)])
```

```
I_sum = np.sum(I_values, axis=0)

E_I_est = I_sum / N
D = E_I_est / (t * g)

return D
```

Let's test this out. Remember the expected value is 0.05.

```
[25]: print(student_estimate_dark_current((256,256))[0,0]) # should be 0.05 #[0,0]

delete
```

0.0500000000108884

```
[26]: correct = True
    for D_val in [0.01,0.02,0.05,0.06]:
        set_vals(D_val=D_val)
        est_D = student_estimate_dark_current((256,256))
        correct = correct and np.allclose([est_D], [D_val])
    if correct:
        print("All tests passed")
    else:
        print("Error!")
```

All tests passed

Now lets estimate n_read and n_adc. As we discussed in Lecture 5, we can do this through a multi-step process: 1. Compute mean and variance for various gray levels (the number of levels is set by N_levels) 2. Fit a line to the data and use it to estimate g and n_add 3. Use the estimated values of g and n_add to estimate n_read and n_adc.

How do we do step 3? We can leverage the following relationship:

$$n_{add} = \mathcal{N}(0, \sqrt{\sigma_{read}^2 \cdot g^2 + \sigma_{adc}^2})$$

```
11 11 11
         set_vals(D_val=0)
         max_flux = 1
         max_g = 10
         t = 1
         n_g=level = 10
         gain_levels = np.linspace(1,max_g,n_g_level)
         gray_levels = np.linspace(0,max_flux,N_levels)
         g_est_list = []
         n_add_est_list = []
         for i in range(len(gain_levels)):
           E_list = []
           var_list = []
           set_vals(g_val=gain_levels[i])
           for j in range(len(gray_levels)):
             gray_flux = gray_level_flux(size,gray_levels[j])
             E_list.append(np.mean(student_get_E_I(t,gray_flux)))
             var_list.append(np.mean(student_get_var_I(t,gray_flux)))
           est_g, est_var_add = np.polyfit(np.array(E_list),np.array(var_list),1)
           n_add_est_list.append(est_var_add)
         g_squared = gain_levels**2
         est_var_read,est_var_adc = np.polyfit(g_squared,np.array(n_add_est_list),1)
         return np.sqrt(est_var_read),np.sqrt(est_var_adc)
[30]: set_vals(sigma_adc_val=0.01, sigma_read_val=0.01)
     student_estimate_read_adc((512,512))
[31]: correct = True
     set_vals(D_val=0) # We've estimated it now and can subtract from input images
     for n adc, n read in zip([0.01, 0.02, 0.05, 0.06], [0.01, 0.05, 0.02, 0.01]):
         set_vals(sigma_adc_val=n_adc, sigma_read_val=n_read)
         est_n_read, est_n_adc = student_estimate_read_adc((256,256))
         correct = correct and np.allclose([est_n_read, est_n_adc], [n_read, n_adc])
     if correct:
         print("All tests passed")
     else:
         print("Error!")
```

All tests passed

If all tests are passing, congrats! You implemented a system to estimate the various noises in the imaging pipeline.

1.4 Problem 3: HDR Imaging

In this problem, we will implement exposure bracketing for HDR reconstruction. We have access to a set of images taken at various exposure levels and we want to output a single HDR picture that better represents the scene.

Let's start by visualizing the expected output and input:

Lets load images in and reading exposure levels. We've written a function below that loads in the shutter speed, f-stop, and gain of the images.

```
[32]: data_file = "/content/hdr/memorial.hdr_image_list.txt"
      num_imgs = 0
      ldr_imgs = []
      with open(data_file, "r") as img_list:
          for line in img_list:
              if line[0] == "#":
                  continue
              vals = line.split()
              if len(vals) == 1:
                  num_imgs = int(vals[0])
              else:
                  fname, inv_shutter_speed, f_stop, gain, nd_filters = vals
                  inv_shutter_speed = float(inv_shutter_speed)
                  f_stop = int(f_stop)
                  gain = int(gain)
                  I = np.array(Image.open('/content/hdr/'+fname.replace('.ppm', '.
       →png')))
                  ldr_imgs.append((I, inv_shutter_speed, f_stop, gain)) # Which one_
       ⇔of these measures exposure time?
```

```
[33]: # Visualize the first 5 images
fig, ax = plt.subplots(1,16)
for i in range(16):
      ax[i].imshow(ldr_imgs[i][0])
plt.title("Sample Input Images")
plt.show()
```

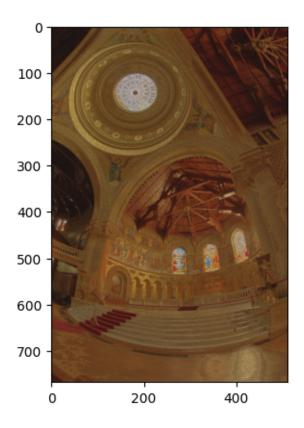


Now that we have the images, lets put them together following the exposure bracketing technique discussed in class. In this technique, we take pixel values from images with varying exposure, weight them by both pixel values and exposure values (see Lecture 5 for details) and then combine them to get an HDR image.

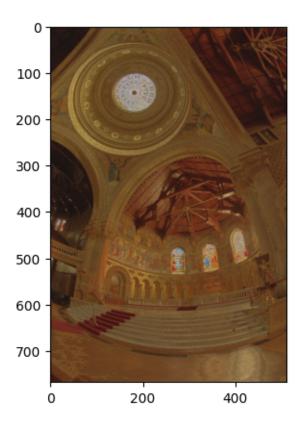
A key question you will have to answer is how to convert the data we have into exposure values we can use for weighting. As a hint, exposure values are generally integer numbers with 0 being the "middle".

```
[34]: def student_hdr_reconstruct(imgs):
          n_images = len(imgs)
          inv_shutter_speed_list = np.array([1 / img[1] for img in imgs])
          weight shutter = 1/(np.abs(np.log2(inv shutter speed list)) + 1)
          pixel_sum = np.zeros(imgs[0][0].shape)
          weight_sum = np.zeros(imgs[0][0].shape)
          for i in range(n_images):
            img = imgs[i][0] / 255
            mask1 = np.all(img > 0.05, axis = 2)
            mask2 = np.all(img < 0.95, axis = 2)
            mask1_repeat = np.repeat(mask1[...,np.newaxis],3,axis = 2).astype(int)
            mask2_repeat = np.repeat(mask2[...,np.newaxis],3,axis = 2).astype(int)
            masked_img = img * mask1_repeat * mask2_repeat
            weight_new = masked_img * weight_shutter[i]
            pixel_sum += masked_img * (weight_new)
            weight_sum += weight_new
          hdr_img = pixel_sum / weight_sum
          return hdr img
```

```
[35]: #MY RESULT
hdr_img = student_hdr_reconstruct(ldr_imgs)
plt.imshow(hdr_img)
plt.show()
```



```
[36]: sol = np.load('/content/sol/hdr.npy')
  plt.imshow(sol)
  plt.show()
```



[37]: True

If you used techniques not discussed in class, please briefly summarize them here: Please check the above explanation.

1.5 References

Many of the materials used here were compiled from various different academic papers and datasets:

Raw Dataset:

NeRF in the Dark: High Dynamic Range View Synthesis from Noisy Raw Images, Ben Mildenhall and Peter Hedman and Ricardo Martin-Brualla and Pratul P. Srinivasan and Jonathan T. Barron, CVPR (2022)

HDR dataset:

Recovering High Dynamic Range Radiance Maps from Photographs., Paul E. Debevec and Jitendra Malik, SIGGRAPH 97, August 1997

Further Reading:

Chapter 2, Computational Imaging, Ayush Bhandari, Achuta Kadambi, and Ramesh Raskar, MIT Press, 2022.

[38]: # I have also included previous versions of codes that are inefficient.

```
[39]: | #CODE WITHOUT PADDING, EDGES ARE NOT SAME WITH THE SOLUTION, CHECK SOLUTION
       →BELOW.
      def student_demosaicking(bayer_image):
          """Converts Bayer data into a full RGB image.
          Input data should be ndarray of shape [height, width] with 2x2 mosaic\sqcup
       ⇔pattern:
               |red |qreen|
               _____
               |qreen|blue |
               _____
          Arqs:
               bayer_imq: [H, W] numpy array. Contains values in the bayer pattern
          Returns:
               rgb_img: [H,W,3] numpy array.
          Potential Implementation:
          [Lecture 2] A potential implementation is bilinear interpolation
          where each pixel value is averaged from its four neighbors. Where those \sqcup
        \neg neighbors
          are located will vary based on the color you are trying to interpolate. Our _{\!\scriptscriptstyle \perp}
       \hookrightarrow code will
          sanity check bilinear interpolation.
          H,W = bayer_image.shape[0],bayer_image.shape[1]
          rgb\_img = np.zeros((H, W, 3))
          for i in range(0, H):
            for j in range(0, W):
               #RED
               if(i \% 2 == 0):
                 if(j \% 2 == 0):
                   rgb\_img[i,j,0] = bayer\_image[i,j]
                 else:
                   if(j == W - 1):
                     rgb\_img[i,j,0] = bayer\_image[i,j-1]
                   else:
```

```
rgb\_img[i,j,0] = (bayer\_image[i,j-1] + bayer\_image[i,j+1])/2
                                            else:
                                                        if(i == H - 1):
                                                                     if(j == W - 1):
                                                                                  rgb\_img[i,j,0] = bayer\_image[i-1,j-1]
                                                                     else:
                                                                                   if(j \% 2 == 0):
                                                                                             rgb\_img[i,j,0] = bayer\_image[i-1,j]
                                                                                              rgb\_img[i,j,0] = (bayer\_image[i-1,j-1] + bayer\_image[i-1,j+1])/2
                                                        else:
                                                                     if(j\%2 == 0):
                                                                                  rgb\_img[i,j,0] = (bayer\_image[i-1,j] + bayer\_image[i+1,j])/2
                                                                     else:
                                                                                   if(j == W - 1):
                                                                                              rgb\_img[i,j,0] = (bayer\_image[i-1,j-1] + bayer\_image[i+1,j-1])/2
                                                                                             rgb\_img[i,j,0] = (bayer\_image[i-1,j-1] + bayer\_image[i-1,j+1] + \Box
\rightarrow bayer\_image[i+1,j-1] + bayer\_image[i+1,j+1])/4
                                           #GREEN
                                           if(i\%2 == 0):
                                                         if(i == 0):
                                                                     if(j \%2 == 0):
                                                                                  if(j == 0):
                                                                                              rgb\_img[i,j,1] = (bayer\_image[i+1,j] + bayer\_image[i,j+1])/2
                                                                                              rgb\_img[i,j,1] = (bayer\_image[i,j-1] + bayer\_image[i+1,j] + bayer\_imag
\rightarrow bayer_image[i, j+1])/3
                                                                                 rgb\_img[i, j, 1] = bayer\_image[i, j]
                                                        else:
                                                                     if(i\%2 == 0):
                                                                                  if(j == 0):
                                                                                              rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i+1,j] + bayer\_imag
\Rightarrow bayer_image[i,j+1])/3
                                                                                  else:
                                                                                              rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i+1,j] + bayer\_imag
\neg bayer\_image[i, j+1] + bayer\_image[i, j-1])/4
                                                                    else:
                                                                                 rgb\_img[i,j,1] = bayer\_image[i,j]
                                           else:
                                                         if(i == H - 1):
                                                                     if(j\%2 == 0):
                                                                                 rgb\_img[i,j,1] = bayer\_image[i,j]
                                                                     else:
                                                                                  if(j == W - 1):
                                                                                              rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i,j-1])/2
```

```
else:
                                                                                rqb\_imq[i,j,1] = 
    else:
                                                            if(j\%2 == 0):
                                                                     rqb imq[i,j,1] = bayer image[i,j]
                                                                       if(j == W - 1):
                                                                                rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i+1,j] + bayer\_imag
    \Rightarrow bayer_image[i, j-1])/3
                                                                       else:
                                                                                rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i+1,j] + bayer\_imag
    \Rightarrow bayer_image[i,j+1]+ bayer_image[i,j-1])/4
                                       #BLUE
                                       if(i\%2 == 0):
                                                 if(i == 0):
                                                           if(j\%2 == 0):
                                                                       if(j == 0):
                                                                                rgb\_img[i,j,2] = bayer\_image[i+1,j+1]
                                                                       else:
                                                                                rgb\_img[i,j,2] = (bayer\_image[i+1,j+1] + bayer\_image[i+1,j-1])/2
                                                            else:
                                                                      rgb\_img[i,j,2] = bayer\_image[i+1,j]
                                                 else:
                                                            if(i\%2 == 0):
                                                                      if(j == 0):
                                                                                rgb\_img[i,j,2] = (bayer\_image[i-1,j+1] + bayer\_image[i+1,j+1])/2
                                                                      else:
                                                                                rgb\_img[i,j,2] = 
    \Rightarrow (bayer_image[i-1,j-1]+bayer_image[i-1,j+1]+bayer_image[i+1,j-1]+bayer_image[i+1,j+1])/
    94
                                                            else:
                                                                                rgb\_img[i,j,2] = (bayer\_image[i-1,j] + bayer\_image[i+1,j])/2
                                       else:
                                                  if(i\%2 == 0):
                                                           if(j == 0):
                                                                     rgb\_img[i,j,2] = bayer\_image[i,j+1]
                                                                     rgb\_img[i,j,2] = (bayer\_image[i,j-1] + bayer\_image[i,j+1])/2
                                                  else:
                                                            rgb\_img[i,j,2] = bayer\_image[i,j]
                 return rqb_imq
, , ,
```

[39]: '\ndef student_demosaicking(bayer_image):\n """Converts Bayer data into a full RGB image.\n\n Input data should be ndarray of shape [height, width]

```
|red |green|\n
with 2x2 mosaic pattern:\n
                                  ----\n
----\n
                                              ----\n\n
                       |green|blue |\n
bayer img: [H, W] numpy array. Contains values in the bayer pattern\n\n
                  rgb_img: [H,W,3] numpy array.\n\n
Returns:\n
Implementation:\n\n
                       [Lecture 2] A potential implementation is bilinear
                  where each pixel value is averaged from its four neighbors.
interpolation\n
Where those neighbors\n
                           are located will vary based on the color you are
trying to interpolate. Our code will\n
                                          sanity check bilinear interpolation.\n
         H,W = bayer image.shape[0],bayer image.shape[1]\n
np.zeros((H, W, 3))\n
                        for i in range(0,H):\n
                                                     for j in range(0,W):\n
#RED\n
              if(i \% 2 == 0): \n
                                         if(j \% 2 == 0):\n
rgb_img[i,j,0] = bayer_image[i,j]\n
                                             else:\n
                                                                if(j == W - 1)
):\n
                  rgb_{img}[i,j,0] = bayer_{image}[i,j-1] \n
                                                                   else:\n
rgb_{img}[i,j,0] = (bayer_{image}[i,j-1] + bayer_{image}[i,j+1])/ 2\n
                                                                       else:\n
if(i == H - 1):\n
                            if(j == W - 1): \n
                                                            rgb_img[i,j,0] =
                                  else:\n
bayer_image[i-1,j-1]\n
                                                       if(j \% 2 == 0): \n
rgb_img[i,j,0] = bayer_image[i-1,j]\n
                                                   else:\n
rgb_img[i,j,0] = (bayer_image[i-1,j-1] + bayer_image[i-1,j+1])/2\n
                   if(j\%2 == 0):\n
else:\n
                                                rgb_img[i,j,0] =
(bayer_image[i-1,j] + bayer_image[i+1,j])/2\n
                                                         else:\n
if(j == W - 1):\n
                                 rgb_{img}[i,j,0] = (bayer_{image}[i-1,j-1] +
bayer_image[i+1,j-1])/2\n
                                       else:\n
                                                              rgb_img[i,j,0] =
(bayer_image[i-1,j-1] + bayer_image[i-1,j+1] + bayer_image[i+1,j-1] +
bayer image[i+1,j+1])/4\n
                                #GREEN\n
                                                 if(i\%2 == 0):\n
                                                                          if(i
== 0):\n
                    if(j \%2 == 0):\n
                                                  if(j == 0): \n
rgb_{img}[i,j,1] = (bayer_{image}[i+1,j] + bayer_{image}[i,j+1])/2\n
                       rgb_img[i,j,1] = (bayer_image[i,j-1] + bayer_image[i+1,j]
else:\n
                                     else:\n
                                                          rgb_img[i,j,1] =
+ bayer_image[i,j+1])/3\n
bayer_image[i,j]\n
                            else:\n
                                               if(j\%2 == 0):\n
                                                                            if(j
== 0):\n
                        rgb_img[i,j,1] = (bayer_image[i-1,j] +
bayer_image[i+1,j] + bayer_image[i,j+1])/3\n
                                                          else:\n
rgb_img[i,j,1] = (bayer_image[i-1,j] + bayer_image[i+1,j] + bayer_image[i,j+1] +
bayer_image[i,j-1])/4\n
                                   else:\n
                                                       rgb_img[i,j,1] =
                                           if(i == H - 1):\n
bayer_image[i,j]\n
                          else:\n
                                                                         if(j%2
== 0):\n
                     rgb_img[i,j,1] = bayer_image[i,j]\n
if(j == W - 1):\n
                                 rgb_{img}[i,j,1] = (bayer_{image}[i-1,j] +
                                     else:\n
bayer_image[i,j-1])/2\n
                                                            rgb_img[i,j,1] =
(bayer_image[i,j-1]+bayer_image[i-1,j]+bayer_image[i,j+1])/3\n
                                                                        else:\n
if(i\%2 == 0):\n
                             rgb_img[i,j,1] = bayer_image[i,j]\n
                     if(j == W - 1): \n
else:\n
                                                      rgb_img[i,j,1] =
(bayer_image[i-1,j] + bayer_image[i+1,j] + bayer_image[i,j-1])/3\n
else:\n
                       rgb_img[i,j,1] = (bayer_image[i-1,j] + bayer_image[i+1,j]
+ bayer_image[i,j+1]+ bayer_image[i,j-1])/4\n
                                                     #BLUE\n
                                                                    if(i%2 ==
0):\n
               if(i == 0): \n
                                        if(j\%2 == 0):\n
                                                                     if(j ==
0):\n
                     rgb_{img}[i,j,2] = bayer_{image}[i+1,j+1] \n
                       rgb_{img}[i,j,2] = (bayer_{image}[i+1,j+1] +
else:\n
bayer_image[i+1,j-1])/2\n
                                     else:\n
                                                          rgb_img[i,j,2] =
```

```
bayer_image[i+1,j]\n
                                     else:\n
                                                         if(j\%2 == 0):\n
      if(j == 0): \n
                                    rgb_{img}[i,j,2] = (bayer_{image}[i-1,j+1] +
      bayer_image[i+1,j+1])/2\n
                                              else:\n
                                                                      rgb_img[i,j,2] = (
      bayer_image[i-1,j-1]+bayer_image[i-1,j+1]+bayer_image[i+1,j-
      1]+bayer_image[i+1,j+1])/4\n
                                               else:\n
                                                                       rgb_img[i,j,2] =
      (bayer_image[i-1,j] + bayer_image[i+1,j])/2\n
                                                             else:\n
                                                                              if(j\%2 ==
      0):\n
                       if(j == 0): \n
                                                   rgb_img[i,j,2] =
      bayer_image[i,j+1]\n
                                       else:\n
                                                             rgb_img[i,j,2] =
      (bayer_image[i,j-1] + bayer_image[i,j+1])/2\n
                                                               else:\n
      rgb_img[i,j,2] = bayer_image[i,j]\n\n return rgb_img\n'
[40]: '''
      def student_demosaicking(bayer_img_input):
          """Converts Bayer data into a full RGB image.
          Input data should be ndarray of shape [height, width] with 2x2 mosaic ⊔
       \hookrightarrow pattern:
              |red |qreen|
              _____
              |qreen|blue |
          Arqs:
              bayer_imq: [H, W] numpy array. Contains values in the bayer pattern
          Returns:
              rgb_img: [H,W,3] numpy array.
          Potential Implementation:
          [Lecture 2] A potential implementation is bilinear interpolation
          where each pixel value is averaged from its four neighbors. Where those \Box
       \neg neighbors
          are located will vary based on the color you are trying to interpolate. Our \Box
       ⇔code will
          sanity check bilinear interpolation.
          11 11 11
          bayer_image = np.pad(bayer_imq_input, 1, mode='wrap')
          H_pad, W_pad = bayer_image.shape[0], bayer_image.shape[1]
          rgb_img = np.zeros((H_pad, W_pad, 3))
          for i in range(1,H_pad-1):
            for j in range(1, W_pad-1):
              #RED
              if(i \% 2 == 1):
                if(j \% 2 == 1):
```

```
rqb\_imq[i,j,0] = bayer\_image[i,j]
                                                                      else:
                                                                                   rqb imq[i,j,0] = (bayer image[i,j-1] + bayer image[i,j+1])/2
                                                        else:
                                                                      if(j\%2 == 1):
                                                                                    rgb\_img[i,j,0] = (bayer\_image[i-1,j] + bayer\_image[i+1,j])/2
                                                                                   rgb\_img[i,j,0] = (bayer\_image[i-1,j-1] + bayer\_image[i-1,j+1] + ba
      \Rightarrow bayer_image[i+1, j-1] + bayer_image[i+1, j+1])/4
                                                       #GREEN
                                                       if(i\%2 == 1):
                                                                     if(j\%2 == 1):
                                                                                    rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i+1,j] + bayer\_imag
      \Rightarrow bayer_image[i,j+1]+ bayer_image[i,j-1])/4
                                                                     else:
                                                                                    rgb\_img[i,j,1] = bayer\_image[i,j]
                                                       else:
                                                                      if(i\%2 == 1):
                                                                                    rgb\_img[i,j,1] = bayer\_image[i,j]
                                                                                   rgb\_img[i,j,1] = (bayer\_image[i-1,j] + bayer\_image[i+1,j] + bayer\_imag
      \rightarrow bayer\_image[i, j+1] + bayer\_image[i, j-1])/4
                                                       #BLUE
                                                       if(i\%2 == 1):
                                                                     if(i\%2 == 1):
                                                                                   rgb\_img[i,j,2] = 
     \Rightarrow (bayer_image[i-1,j-1]+bayer_image[i-1,j+1]+bayer_image[i+1,j-1]+bayer_image[i+1,j+1])/
                                                                     else:
                                                                                   rgb\_img[i,j,2] = (bayer\_image[i-1,j] + bayer\_image[i+1,j])/2
                                                       else:
                                                                      if(i\%2 == 1):
                                                                                   rqb imq[i,j,2] = (bayer image[i,j-1] + bayer image[i,j+1])/2
                                                                     else:
                                                                                   rgb\_img[i,j,2] = bayer\_image[i,j]
                         org\_size\_img = rgb\_img[1:H\_pad-1,1:W\_pad-1,:]
                        return org_size_img
,,,
```

```
[40]: '\ndef student_demosaicking(bayer_img_input):\n """Converts Bayer data into a full RGB image.\n\n Input data should be ndarray of shape [height, width] with 2x2 mosaic pattern:\n -----\n |red |green|\n ----\n\n Args:\n bayer_img: [H, W] numpy array. Contains values in the bayer pattern\n\n Returns:\n rgb_img: [H,W,3] numpy array.\n\n Potential
```

```
where each pixel value is averaged from its four neighbors.
      interpolation\n
      Where those neighbors\n
                                 are located will vary based on the color you are
      trying to interpolate. Our code will\n
                                                 sanity check bilinear interpolation.\n
               bayer_image = np.pad(bayer_img_input, 1, mode=\'wrap\')\n
      H_pad,W_pad = bayer_image.shape[0],bayer_image.shape[1]\n
                                                                    rgb_img =
      np.zeros((H pad, W pad, 3))\n
                                       for i in range(1,H pad-1):\n
                                                                           for j in
      range(1,W_pad-1):\n
                                                if(i % 2 == 1):\n
                                  #RED\n
                                                                            if(j % 2 ==
      1):\n
                       rgb_img[i,j,0] = bayer_image[i,j]\n
                                                                      else:\n
      rgb_{img}[i,j,0] = (bayer_{image}[i,j-1] + bayer_{image}[i,j+1])/ 2\n
                                                                               else:\n
                                 rgb_img[i,j,0] = (bayer_image[i-1,j] +
      if(j\%2 == 1):\n
      bayer_image[i+1,j])/2\n
                                        else:\n
                                                           rgb_img[i,j,0] =
      (bayer_image[i-1,j-1] + bayer_image[i-1,j+1] + bayer_image[i+1,j-1] +
      bayer_image[i+1,j+1])/4\n\n
                                          #GREEN\n
                                                          if(i\%2 == 1):\n
      if(i\%2 == 1):\n
                                 rgb_{img}[i,j,1] = (bayer_{image}[i-1,j] +
      bayer_image[i+1,j] + bayer_image[i,j+1]+ bayer_image[i,j-1])/4\n
      else:\n
                         rgb_img[i,j,1] = bayer_image[i,j]\n
                                                                      else:\n
      if(i\%2 == 1):\n
                                 rgb_img[i,j,1] = bayer_image[i,j]\n
                                                                                else:\n
      rgb_img[i,j,1] = (bayer_image[i-1,j] + bayer_image[i+1,j] + bayer_image[i,j+1]+
                                                       if(i\%2 == 1):\n
      bayer_image[i,j-1])/4\n\n
                                        #BLUE\n
                                                                                 if(i%2
      == 1):\n
                          rgb_img[i,j,2] = (bayer_image[i-1,j-1]+bayer_image[i-
      1, j+1]+bayer_image[i+1, j-1]+bayer_image[i+1, j+1])/4\n
                                                                       else:\n
      rgb_{img}[i,j,2] = (bayer_{image}[i-1,j] + bayer_{image}[i+1,j])/2\n
                                                                              else:\n
      if(i\%2 == 1):\n
                                 rgb img[i,j,2] = (bayer image[i,j-1] +
      bayer_image[i,j+1])/2\n
                                        else:\n
                                                           rgb_img[i,j,2] =
      bayer_image[i,j]\n org_size_img = rgb_img[1:H_pad-1,1:W_pad-1,:]\n
                                                                                 return
      org_size_img\n'
[41]: '''
      def student_white_balancing(demosaicked_image):
          """White balances an image.
          Args:
              demoisaicked_image: [H, W, 3] numpy array containing RGB values
          Returns:
              white_balanced_img: [H, W, 3] numpy array
          Potential Implementation:
          [Lecture 2] Two common implementations are the gray-world assumption or the
          white-world assumption. Both can be implemented using a matrix_
       \hookrightarrow multiplication.
          Our code will sanity check the gray-world assumption.
          R_avg = np.mean(demosaicked_image[:,:,0])
```

[Lecture 2] A potential implementation is bilinear

Implementation:\n\n

```
G_avg = np.mean(demosaicked_image[:,:,1])
          B_avq = np.mean(demosaicked_image[:,:,2])
          matrix = np.array([[G_avg/R_avg, 0, 0],
                            [0, 1, 0],
                            [0, 0, G_avq/B_avq]])
          H,W = demosaicked_image.shape[0],demosaicked_image.shape[1]
          white_balanced_img = np.zeros((H, W, 3))
          for i in range(H):
            for j in range(W):
              rqb = np.
       \neg array([demosaicked\_image[i,j,0],demosaicked\_image[i,j,1],demosaicked\_image[i,j,2]]).
       \neg reshape(-1,1)
              rqb_white_balanced = np.matmul(matrix,rqb)
              white_balanced_img[i, j, 0] = rqb_white_balanced[0]
              white_balanced_imq[i, j, 1] = rqb_white_balanced[1]
              white_balanced_img[i,j,2] = rgb_white_balanced[2]
          return white_balanced_img
      ,,,
[41]: '\ndef student_white_balancing(demosaicked_image):\n
                                                               """White balances an
      image.\n\n
                    Args:\n
                                   demoisaicked_image: [H,W,3] numpy array containing
      RGB values\n\n
                        Returns:\n\n
                                            white_balanced_img: [H,W,3] numpy
                   Potential Implementation:\n\n
      arrav\n\n
                                                     [Lecture 2] Two common
      implementations are the gray-world assumption or the\n
                                                                 white-world
      assumption. Both can be implemented using a matrix multiplication.\n
                                                                               Our code
                                                        """\n
      will sanity check the gray-world assumption.\n
                                                                  R avg =
      np.mean(demosaicked_image[:,:,0])\n
                                             G avg =
      np.mean(demosaicked_image[:,:,1])\n
                                             B avg =
      np.mean(demosaicked_image[:,:,2])\n
                                             matrix = np.array([[G_avg/R_avg, 0, 0],\n
      [0, 1, 0], n
                                         [0, 0, G_avg/B_avg]])\n
                                                                    H, W =
      demosaicked_image.shape[0],demosaicked_image.shape[1]\n
                                                                  white_balanced_img =
                               for i in range(H):\n
                                                         for j in range(W):\n
      np.zeros((H, W, 3))\n
      rgb = np.array([demosaicked_image[i,j,0],demosaicked_image[i,j,1],demosaicked_im
      age[i,j,2]).reshape(-1,1)\n
                                          rgb_white_balanced = np.matmul(matrix,rgb)\n
      white_balanced_img[i,j,0] = rgb_white_balanced[0]\n
      white_balanced_img[i,j,1] = rgb_white_balanced[1]\n
      white_balanced_img[i,j,2] = rgb_white_balanced[2]\n\n
                                                                return
      white_balanced_img\n'
[42]: '''
      def student_color_transform(white_balanced_image):
          """Color transform from camera space to rgb
          Arqs:
              white balanced_image: [H, W, 3] numpy array in camera color space
```

```
Returns:
              rqb_image: [H,W,3] numpy array in RGB color space
          Potential Implementation:
          How would you combine the provided matrices to get the image into RGB space?
          matrix = np.matmul(xyz2cam, rgb2xyz)
          inv matrix = np.linalq.inv(matrix)
          H, W = white_balanced_image.shape[0], white_balanced_image.shape[1]
          rqb\_image = np.zeros((H, W, 3))
          for i in range(H):
            for j in range(W):
              cam = np.
       \neg array([white balanced image[i, j, 0], white balanced image[i, j, 1], white balanced image[i, j, 2]]
       \neg reshape(-1,1)
              rgb = np.matmul(inv_matrix,cam)
              rqb image[i, j, 0] = rqb[0]
              rgb\_image[i, j, 1] = rgb[1]
              rgb\_image[i,j,2] = rgb[2]
          return rgb_image
      . . .
                                                                  """Color transform
[42]: '\ndef student_color_transform(white_balanced_image):\n
     from camera space to rgb\n\n
                                      Args:\n
                                                     white_balanced_image: [H,W,3]
     numpy array in camera color space\n\n
                                               Returns:\n\n
                                                                   rgb_image: [H,W,3]
     numpy array in RGB color space\n\n
Potential Implementation:\n\n
                                                                             How would
     you combine the provided matrices to get the image into RGB space?\n
                                                                              """\n\n
     matrix = np.matmul(xyz2cam,rgb2xyz)\n
                                               inv_matrix = np.linalg.inv(matrix)\n\n
     H,W = white_balanced_image.shape[0],white_balanced_image.shape[1] \n
      = np.zeros((H, W, 3))\n
                                 for i in range(H):\n
                                                           for j in range(W):\n
      cam = np.array([white_balanced_image[i,j,0],white_balanced_image[i,j,1],white_ba
      lanced_image[i,j,2]]).reshape(-1,1)\n
                                                  rgb = np.matmul(inv_matrix,cam)\n
```

```
[43]:

def student_hdr_reconstruct(imgs):
    """

Recovers a HDR image from multiple LDR images.

Args:
    imgs: a list of tuples containing: LDR image ([H,W,3]), 1/shutter

⇒speed, f-stop, gain
```

 $rgb_{image[i,j,0]} = rgb[0] \ rgb_{image[i,j,1]} = rgb[1] \ n$

rgb_image[i,j,2] = rgb[2]\n return rgb_image\n'

```
Returns:
       hdr_imq: a [H,W,3] HDR image
  n_images = len(imgs)
  inv_shutter_speed_list = []
  for i in range(n_images):
    inv_shutter_speed_list.append(imgs[i][1])
  H, W = imqs[0][0].shape[0], imqs[0][0].shape[1]
  hdr_img = np.zeros((H, W, 3))
  n_valid_pixel = np.zeros((H,W))
  for i in range(H):
    for j in range(W):
      pixel\_sum = np.zeros((1,3))
      weight_sum = np.zeros((1,3))
      for k in range(n_images):
         pixel_RGB = imgs[k][0][i,j,:] / 255
         if(np.all(pixel\_RGB > 0.05)) and np.all(pixel\_RGB < 0.95)):
           weight_new = pixel_RGB / (np.abs(np.
\neg log2(inv\_shutter\_speed\_list[k])) + 1)
           pixel_sum += pixel_RGB * (weight_new)
           weight_sum += weight_new
      pixel_hdr = pixel_sum / weight_sum
      hdr_img[i,j,:] = pixel_hdr
  return hdr_imq
```

```
"""\n
[43]: '\ndef student_hdr_reconstruct(imgs):\n
                                                          Recovers a HDR image from
                                                 imgs: a list of tuples containing:
     multiple LDR images.\n\n
                                  Args:\n
      LDR image ([H,W,3]), 1/\text{shutter speed}, f-\text{stop}, gain\n
                                                                 Returns:\n
      hdr_img: a [H,W,3] HDR image\n
                                       """\n
                                                 n_{images} = len(imgs) \n
      inv_shutter_speed_list = []\n
                                       for i in range(n_images):\n
      inv_shutter_speed_list.append(imgs[i][1])\n
                                                     H,W =
      imgs[0][0].shape[0],imgs[0][0].shape[1]
                                                   hdr_img = np.zeros((H,W,3))\n\
      n_{valid_pixel} = np.zeros((H,W)) \n
                                             for i in range(H):\n
                                                                        for j in
      range(W):\n
                         pixel_sum = np.zeros((1,3))\n
                                                               weight_sum =
      np.zeros((1,3))\n
                               for k in range(n images):\n
                                                                     pixel RGB =
      imgs[k][0][i,j,:] / 255\n
                                         if(np.all(pixel_RGB > 0.05)) and
     np.all(pixel RGB < 0.95)):\n
                                              weight_new = pixel_RGB /
      (np.abs(np.log2(inv_shutter_speed_list[k])) + 1)\n
                                                                     pixel_sum +=
      pixel_RGB * (weight_new)\n
                                            weight_sum += weight_new\n\n
     pixel_hdr = pixel_sum / weight_sum\n
                                                  hdr_{img}[i,j,:] = pixel_hdr\n
      return hdr_img\n'
```

```
[28]: '''
      \#n_add^2 = g^2 * sigma_read^2 + sigma_adc^2
      def student_estimate_read_adc(size, N_levels=10, N=10):
          Estimates n_read and n_adc.
          Potential Implementation based on Lecture 5:
          1. Compute mean and variance for various gray levels (with dark current_{\sqcup}
       \hookrightarrow correction)
          2. Fit a line to the data and estimate parameters
          Returns:
              n_read: estimated n_read
              n\_adc: estimated n\_adc
          11 11 11
          set_vals(D_val=0)
          max_flux = 1
          t = 1e10
          n_g = 10
          gain\_levels = np.linspace(0.1,1.1,n\_g\_level)
          gray_levels = np.linspace(0.01, max_flux, N_levels)
          #print(gain_levels)
          g_{est_list} = []
          n_add_est_list = []
          for k in range(len(qain_levels)):
            E_list = [] # 5x256x256
            var_list = [] # 5x256x256
            set_vals(g_val=gain_levels[k])
            for i in range(len(gray_levels)):
              I_samples = []
              I_sum = np.zeros((size))
              for j in range(N):
                I = student_get_I(t,gray_level_flux(size, gray_levels[i]))
                I_samples.append(I)
                I sum += I
              E_I = I_sum / (N)
              var\_sum = np.zeros((size))
              for j in range(N):
                var\_sum += (I\_samples[j] - E\_I\_est) ** 2
              var_I_{est} = var_{sum} / (N-1)
              E_list.append(E_I_est)
              var_list.append(var_I_est)
```

```
E_array = np.array(E_list)
     var\_array = np.array(var\_list)
     q_slope_array = np.zeros(size)
     var_add_constant_array = np.zeros(size)
   #print(E array)
   #print(var_array)
     for i in range(size[0]):
       for j in range(size[1]):
         x = np.array(E_array[:,i,j])
          y = np.array(var_array[:,i,j])
         fit_1 = np.polyfit(x, y, 1)
          q_slope_array[i,j] = fit_1[0]
          var\_add\_constant\_array[i,j] = fit\_1[1]
     q_est_list.append(np.mean(q_slope_array))
     n_add_est_list.append(np.mean(var_add_constant_array))
   print(g_est_list)
   print("ESTIMATED sigma_add")
   print(np.sqrt(n_add_est_list))
   print("TRUE N ADD")
   print(np.sqrt((sigma_read**2) * (np.array(gain_levels)**2) +__
\hookrightarrow (sigma adc**2)))
   x = (np.array(g_est_list)**2)
   y = (np.array(n_add_est_list))
   fit_2 = np.polyfit(x,y,1)
   var\_read\_m, var\_adc\_c = fit\_2[0], fit\_2[1]
   sigma_read_est = np.sqrt(var_read_m)
   sigma_adc_est = np.sqrt(var_adc_c)
   print(sigma_read_est)
   print(sigma adc est)
   return sigma_read_est, sigma_adc_est
,,,
```

[28]: $\n\#n_add^2 = g^2 * sigma_read^2 + sigma_adc^2 \ndef$ """\n student_estimate_read_adc(size, N_levels=10, N=10):\n Estimates n read and n adc.\n\n Potential Implementation based on Lecture 5:\n Compute mean and variance for various gray levels (with dark current correction)\n 2. Fit a line to the data and estimate parameters \n Returns:\n n_read: estimated n_read\n n adc: estimated n adc\n """\n set vals(D val=0)\n\n $\max_{\text{flux}} = 1 \n$ $t = 1e10\n\$ $n_glevel =$ gain_levels = np.linspace(0.1,1.1,n_g_level)\n gray levels = 10\n np.linspace(0.01,max_flux,N_levels)\n
#print(gain_levels)\n g_est_list = []\n $n_add_est_list = [] \n$ for k in range(len(gain_levels)):\n
E_list $var_list = [] # 5x256x256\n$ = [] # 5x256x256 nset_vals(g_val=gain_levels[k])\n\n for i in range(len(gray_levels)):\n

```
I = student_get_I(t,gray_level_flux(size, gray_levels[i]))\n
     I_samples.append(I) \n
                                   I_sum += I n
                                                        E_I = I_sum / (N) n
     var_sum = np.zeros((size))\n
                                         for j in range(N):\n
     (I_{samples[j]} - E_{I_{est}}) ** 2\n
                                            var_I_est = var_sum / (N-1)\n
     E_list.append(E_I_est)\n
                                     var_list.append(var_I_est)\n\n
                                                                         E_array =
     np.array(E_list)\n
                            var_array = np.array(var_list)\n
                                                                   g_slope_array =
                           var_add_constant_array = np.zeros(size)\n\n
     np.zeros(size)\n
     #print(E array)\n
                          #print(var array)\n\n
                                                     for i in range(size[0]):\n
     for j in range(size[1]):\n
                                         x = np.array(E_array[:,i,j]) \n
                                                                                 y =
     np.array(var_array[:,i,j])\n
                                           fit 1 = np.polyfit(x,y,1)\n
     g_slope_array[i,j] = fit_1[0]\n
                                              var_add_constant_array[i,j] =
     fit 1[1]\n
                     g_est_list.append(np.mean(g_slope_array))\n
     n_add_est_list.append(np.mean(var_add_constant_array))\n
                                                                 print(g_est_list)\n
     print("ESTIMATED sigma_add")\n
                                      print(np.sqrt(n_add_est_list))\n
     print("TRUE N_ADD")\n
                              print(np.sqrt((sigma_read**2) *
     (np.array(gain_levels)**2) + (sigma_adc**2)))\n
     (np.array(g_est_list)**2)\n
                                    y = (np.array(n_add_est_list))\n
                            var_read_m, var_adc_c = fit_2[0],fit_2[1]\n
     np.polyfit(x,y,1)\n
     sigma_read_est = np.sqrt(var_read_m)\n
                                               sigma_adc_est = np.sqrt(var_adc_c)\n
     print(sigma_read_est)\n
                                print(sigma_adc_est)\n return sigma_read_est,
     sigma_adc_est\n'
[29]:
      \#n_add^2 = q^2 * sigma_read^2 + sigma_adc^2
      def student_estimate_read_adc(size, N_levels=5, N=1000):
         Estimates n_read and n_adc.
         Potential Implementation based on Lecture 5:
          1. Compute mean and variance for various gray levels (with dark current \sqcup
       ⇔correction)
          2. Fit a line to the data and estimate parameters
         Returns:
              n_read: estimated n_read
              n_adc: estimated n_adc
          set_vals(D_val=0)
         max flux = 1
          t = 10
         n_g = 10
          gain_levels = np.linspace(1,10,n_g_level)
          gray_levels = np.linspace(0.01, max_flux, N_levels)
```

for j in range(N):\n

```
q_est_list = []
  n_add_est_list = []
  for i in range(len(gain_levels)):
    E_list = [] # N_levelx256x256
    var_list = [] # N_levelx256x256
    set_vals(q_val=gain_levels[i])
    for j in range(len(gray_levels)):
      I\_values = np.array([student\_get\_I(t, ]
\neg gray\_level\_flux(size, gray\_levels[j])) for \_ in range(N)])
      I_sum = np.sum(I_values, axis=0)
      E_I_{est} = I_{sum} / N
      E_I_{est\_repeated} = np.repeat(E_I_{est\_np.newaxis,...],N,axis = 0)
      var\_sum = np.zeros((size))
      var_I_{est} = np.sum((I_values - E_I_{est})**2, axis = 0)/(N-1)
      E_list.append(np.mean(E_I_est))
      var_list.append(np.mean(var_I_est))
      #print("E I")
      \#print(np.mean(E_I_est))
      #print("var_I")
      \#print(np.mean(var_I_est))
    E_array = np.array(E_list)
    var\_array = np.array(var\_list)
    #print(E_array)
    #print(var_array)
    #g_slope_array = np.zeros(size)
    #var_add_constant_array = np.zeros(size)
    fit_1 = np.polyfit(E_array, var_array, 1)
    print(fit_1)
    print(q)
    print("EST VALUE", np.mean(var_array) - np.mean(E_array) * g)
    print("TRUE VALUE", g**2 * sigma_read**2 + sigma_adc **2)
  #print(E_array)
  #print(var_array)
    for i in range(size[0]):
      for j in range(size[1]):
        x = np.array(E_array[:,i,j])
         y = np.array(var_array[:,i,j])
        fit_1 = np.polyfit(x, y, 1)
         g\_slope\_array[i,j] = fit\_1[0]
         var_add_constant_array[i, j] = fit_1[1]
```

```
q_est_list.append(np.mean(q_slope_array))
    n_add_est_list.append(np.mean(var_add_constant_array))
  print(q_est_list)
  print("ESTIMATED sigma_add")
  print(np.sqrt(n_add_est_list))
  print("TRUE N_ADD")
  print(np.sqrt((sigma_read**2) * (np.array(gain_levels)**2) +__
\hookrightarrow (sigma_adc**2)))
  x = (np.array(q_est_list)**2)
  y = (np.array(n_add_est_list))
  fit_2 = np.polyfit(x,y,1)
  var\_read\_m, var\_adc\_c = fit\_2[0], fit\_2[1]
  sigma_read_est = np.sqrt(var_read_m)
  sigma_adc_est = np.sqrt(var_adc_c)
  print(sigma_read_est)
  print(sigma_adc_est)
  return sigma_read_est, sigma_adc_est
```

[29]: $\n\#n_add^2 = g^2 * sigma_read^2 + sigma_adc^2 \ndef$ student_estimate_read_adc(size, N_levels=5, N=1000):\n Estimates n_read and n_adc.\n\n Potential Implementation based on Lecture 5:\n 1. Compute mean and variance for various gray levels (with dark current 2. Fit a line to the data and estimate parameters \n correction)\n Returns:\n n_read: estimated n_read\n n_adc: estimated n_adc\n """\n set vals(D val=0)\n\n $\max flux = 1 \n$ $t = 10 \ln n$ n g level = gray_levels = gain_levels = np.linspace(1,10,n_g_level)\n 10\n $np.linspace(0.01, max_flux, N_levels) \n\$ for i in range(len(gain_levels)):\n $E_list = [] # N_levelx256x256\n$ $var_list = [] # N_levelx256x256\n\n$ set_vals(g_val=gain_levels[i])\n\n for j in range(len(gray_levels)):\n\n I values = np.array([student_get_I(t, gray_level_flux(size,gray_levels[j])) for _ in I_sum = np.sum(I_values, axis=0)\n E I est = I sum / E_I_est_repeated = np.repeat(E_I_est[np.newaxis,...],N,axis = 0)\n $N\n\n$ var_sum = np.zeros((size))\n var_I_est = np.sum((I_values - $E_I_{est}*2,axis = 0)/(N-1)\n$ E_list.append(np.mean(E_I_est))\n var_list.append(np.mean(var_I_est))\n #print("E_I")\n #print(np.mean(E_I_est))\n #print("var_I")\n #print(np.mean(var_I_est))\n\n E_array = np.array(E_list)\n var_array = np.array(var_list)\n #print(E_array)\n #print(var_array)\n #g_slope_array = np.zeros(size)\n #var add constant array = np.zeros(size)\n fit_1 = np.polyfit(E_array,var_array,1)\n print(fit 1)\n print(g)\n print("EST VALUE",np.mean(var_array) np.mean(E_array) * g)\n print("TRUE VALUE",g**2 * sigma_read**2 + sigma_adc **2)\n #print(E_array)\n #print(var_array)\n \n for i in for j in range(size[1]):\n range(size[0]):\n np.array(E_array[:,i,j])\n y = np.array(var_array[:,i,j])\n

```
fit_1 = np.polyfit(x,y,1) \n
                                    g_slope_array[i,j] = fit_1[0]\n
var_add_constant_array[i,j] = fit_1[1]\n
g_est_list.append(np.mean(g_slope_array))\n
n_add_est_list.append(np.mean(var_add_constant_array))\n
                                                           print(g_est_list)\n
print("ESTIMATED sigma_add")\n print(np.sqrt(n_add_est_list))\n
print("TRUE N_ADD")\n
                        print(np.sqrt((sigma_read**2) *
(np.array(gain_levels)**2) + (sigma_adc**2)))\n
(np.array(g_est_list)**2)\n
                              y = (np.array(n_add_est_list))\n
                                                                  fit_2 =
np.polyfit(x,y,1)\n
                      var_read_m, var_adc_c = fit_2[0],fit_2[1]\n
sigma_read_est = np.sqrt(var_read_m)\n
                                        sigma_adc_est = np.sqrt(var_adc_c)\n
print(sigma_read_est)\n
                          print(sigma_adc_est)\n
                                                    return sigma_read_est,
sigma_adc_est\n
```