

# Folder 3D Data

## Contents

- `Folder3D`
- `Folder3DDataset`
- `make_folder3d_dataset()`

Custom Folder Dataset.

This script creates a custom dataset from a folder.

```
class anomalib.data.depth.folder_3d.Folder3D(name, normal_dir, root,  
abnormal_dir=None, normal_test_dir=None, mask_dir=None,  
normal_depth_dir=None, abnormal_depth_dir=None,  
normal_test_depth_dir=None, extensions=None, train_batch_size=32,  
eval_batch_size=32, num_workers=8, task=TaskType.SEGMENTATION,  
image_size=None, transform=None, train_transform=None,  
eval_transform=None, test_split_mode=TestSplitMode.FROM_DIR,  
test_split_ratio=0.2, val_split_mode=ValSplitMode.FROM_TEST,  
val_split_ratio=0.5, seed=None)
```

Bases: [AnomalibDataModule](#)

Folder DataModule.

**Parameters:**

- **name** (*str*) – Name of the dataset. This is used to name the datamodule, especially when logging/saving.
- **normal\_dir** (*str* | *Path*) – Name of the directory containing normal images.
- **root** (*str* | *Path* | *None*) – Path to the root folder containing normal and abnormal dirs. Defaults to `None`.
- **abnormal\_dir** (*str* | *Path* | *None*) – Name of the directory containing abnormal images. Defaults to `abnormal`.
- **normal\_test\_dir** (*str* | *Path* | *None*, *optional*) – Path to the directory containing normal images for the test dataset. Defaults to `None`.
- **mask\_dir** (*str* | *Path* | *None*, *optional*) – Path to the directory containing the mask annotations. Defaults to `None`.
- **normal\_depth\_dir** (*str* | *Path* | *None*, *optional*) – Path to the directory containing normal depth images for the test dataset. Normal test depth images will be a split of *normal\_dir*
- **abnormal\_depth\_dir** (*str* | *Path* | *None*, *optional*) – Path to the directory containing abnormal depth images for the test dataset.
- **normal\_test\_depth\_dir** (*str* | *Path* | *None*, *optional*) – Path to the directory containing normal depth images for the test dataset. Normal test images will be a split of *normal\_dir* if *None*. Defaults to `None`.
- **normal\_split\_ratio** (*float*, *optional*) – Ratio to split normal training images and add to the test set in case test set doesn't contain any normal images. Defaults to 0.2.
- **extensions** (*tuple*[*str*, ...] | *None*, *optional*) – Type of the image extensions to read from the directory. Defaults to `None`.
- **train\_batch\_size** (*int*, *optional*) – Training batch size. Defaults to `32`.
- **eval\_batch\_size** (*int*, *optional*) – Test batch size. Defaults to `32`.
- **num\_workers** (*int*, *optional*) – Number of workers. Defaults to `8`.
- **task** (*TaskType*, *optional*) – Task type. Could be `classification`, `detection` or `segmentation`. Defaults to `TaskType.SEGMENTATION`.
- **image\_size** (*tuple*[*int*, *int*], *optional*) – Size to which input images should be resized. Defaults to `None`.
- **transform** (*Transform*, *optional*) – Transforms that should be applied to the input images. Defaults to `None`.
- **train\_transform** (*Transform*, *optional*) – Transforms that should be applied to

- **train\_transform** (*Transform, optional*) – Transforms that should be applied to the input images during training. Defaults to `None`.
- **eval\_transform** (*Transform, optional*) – Transforms that should be applied to the input images during evaluation. Defaults to `None`.
- **test\_split\_mode** ([TestSplitMode](#)) – Setting that determines how the testing subset is obtained. Defaults to `TestSplitMode.FROM_DIR`.
- **test\_split\_ratio** (*float*) – Fraction of images from the train set that will be reserved for testing. Defaults to `0.2`.
- **val\_split\_mode** ([ValSplitMode](#)) – Setting that determines how the validation subset is obtained. Defaults to `ValSplitMode.FROM_TEST`.
- **val\_split\_ratio** (*float*) – Fraction of train or test images that will be reserved for validation. Defaults to `0.5`.
- **seed** (*int | None, optional*) – Seed used during random subset splitting. Defaults to `None`.

**property name:** *str*

Name of the datamodule.

Folder3D datamodule overrides the name property to provide a custom name.

```
class anomalib.data.depth.folder_3d.Folder3DDataset(name, task,
normal_dir, root=None, abnormal_dir=None, normal_test_dir=None,
mask_dir=None, normal_depth_dir=None, abnormal_depth_dir=None,
normal_test_depth_dir=None, transform=None, split=None, extensions=None)
```

Bases: [AnomalibDepthDataset](#)

Folder dataset.

### Parameters:

- **name** (*str*) – Name of the dataset.
- **task** (*TaskType*) – Task type. (`classification`, `detection` or `segmentation`).
- **transform** (*Transform, optional*) – Transforms that should be applied to the input images.
- **normal\_dir** (*str | Path*) – Path to the directory containing normal images.
- **root** (*str | Path | None*) – Root folder of the dataset. Defaults to `None`.
- **abnormal\_dir** (*str | Path | None, optional*) – Path to the directory containing abnormal images. Defaults to `None`.
- **normal\_test\_dir** (*str | Path | None, optional*) – Path to the directory containing normal images for the test dataset. Defaults to `None`.
- **mask\_dir** (*str | Path | None, optional*) – Path to the directory containing the mask annotations. Defaults to `None`.
- **normal\_depth\_dir** (*str | Path | None, optional*) – Path to the directory containing normal depth images for the test dataset. Normal test depth images will be a split of *normal\_dir* Defaults to `None`.
- **abnormal\_depth\_dir** (*str | Path | None, optional*) – Path to the directory containing abnormal depth images for the test dataset. Defaults to `None`.
- **normal\_test\_depth\_dir** (*str | Path | None, optional*) – Path to the directory containing normal depth images for the test dataset. Normal test images will be a split of *normal\_dir* if *None*. Defaults to `None`.
- **transform** – Transforms that should be applied to the input images. Defaults to `None`.
- **split** (*str | [Split](#) | None*) – Fixed subset split that follows from folder structure on file system. Choose from [`Split.FULL`, `Split.TRAIN`, `Split.TEST`] Defaults to `None`.
- **extensions** (*tuple[str, ...] | None, optional*) – Type of the image extensions to read from the directory. Defaults to `None`.

#### Raises:

**ValueError** – When task is set to *classification* and *mask\_dir* is provided. When *mask\_dir* is provided, *task* should be set to *segmentation*.

**property** **name:** *str*

Name of the dataset.

Folder3D dataset overrides the name property to provide a custom name.

```
anomalib.data.depth.folder_3d.make_folder3d_dataset(normal_dir,  
root=None, abnormal_dir=None, normal_test_dir=None, mask_dir=None,  
normal_depth_dir=None, abnormal_depth_dir=None,  
normal_test_depth_dir=None, split=None, extensions=None)
```

Make Folder Dataset.

### Parameters:

- **normal\_dir** (*str* | *Path*) – Path to the directory containing normal images.
- **root** (*str* | *Path* | *None*) – Path to the root directory of the dataset. Defaults to `None`.
- **abnormal\_dir** (*str* | *Path* | *None, optional*) – Path to the directory containing abnormal images. Defaults to `None`.
- **normal\_test\_dir** (*str* | *Path* | *None, optional*) – Path to the directory containing normal images for the test
- **None.** (*dataset. Normal test images will be a split of normal\_dir if*) – Defaults to `None`.
- **mask\_dir** (*str* | *Path* | *None, optional*) – Path to the directory containing the mask annotations. Defaults to `None`.
- **normal\_depth\_dir** (*str* | *Path* | *None, optional*) – Path to the directory containing normal depth images for the test dataset. Normal test depth images will be a split of *normal\_dir* Defaults to `None`.
- **abnormal\_depth\_dir** (*str* | *Path* | *None, optional*) – Path to the directory containing abnormal depth images for the test dataset. Defaults to `None`.
- **normal\_test\_depth\_dir** (*str* | *Path* | *None, optional*) – Path to the directory containing normal depth images for the test dataset. Normal test images will be a split of *normal\_dir* if *None*. Defaults to `None`.
- **split** (*str* | [Split](#) | *None, optional*) – Dataset split (ie., `Split.FULL`, `Split.TRAIN` or `Split.TEST`). Defaults to `None`.
- **extensions** (*tuple[str, ...]* | *None, optional*) – Type of the image extensions to read from the directory. Defaults to `None`.

### Returns:

an output dataframe containing samples for the requested split (ie., train or test)

### Return type:

## DataFrame

< Previous  
[Depth Data](#)

Next >  
[MVTec 3D Data](#)