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# **DataExploration Documentation**

***Release 0.0.1***

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**Aug 15, 2020**



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## DATAEXPLORATION UTILS

`utils.collect_hu_values` (*data*)

Collect stats on Housenfeld units of the masks for scaling and visualizations.

INPUT: mask\_paths: list, absolute paths of masks data: object of class Data

OUTPUT:

`utils.dump_data` (*img\_size, img\_res, img\_area, CT\_paths, save\_fpath=None*)

Dumps the data in a csv file saved at path: save\_fpath.

INPUT: save\_fpath: str, Path where we dump all the dataset statistics. Default: None

OUTPUT: None

`utils.get_dataset_stats` (*CT\_paths, Mask\_paths*)

INPUT: CT\_paths: list, A list containing absolute paths to CTs Mask\_paths: list, A list containing absolute paths to Masks

OUTPUT: imageSizes, imageResolutions, imageAreas

NOTE: If save\_fpath is None, then we do not save the stats.

`utils.get_nonzero_voxel_count` (*slice\_count\_all, thresh=0*)

get voxelcounts > thresh

`utils.get_size_resolution` (*sitk\_img\_object*)

Returns the size and voxel spacing of sitk\_image\_object

`utils.load_image` (*img\_path*)

This function loads the image specified by img\_path.

**Parameters** `img_path` (*str*) – Absolute path to the image file

**Returns** sitk object corresponding to image loaded

**Return type** SimpleITK

`utils.pl_get_dataset_stats` (*id, data*)

Evaluate size, resolution and area of ct\_scan

`utils.plot_hist` (*array, title, x\_label, y\_label, n\_bins=200*)

Plots the histogram where values are specified in array and groups the data using n\_bins.

INPUT: array: np.ndarray, The array values. title: str, the title of plot x\_label: str, label shown on x-axis y\_label: str, label shown on y-axis n\_bins: int, the number of bins



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