

Labeling System Guideline

I. Introduction

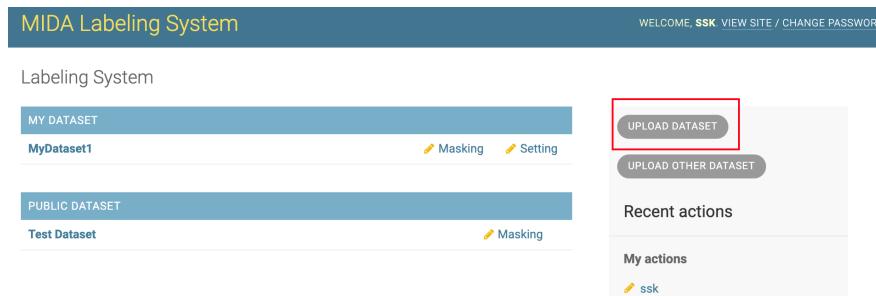
MIDA Labeling System is an open platform to create various labels of breast tumor ultrasound images. It eases the labeling process of creating BI-RADS diagnosis, masking breast tumor, cropping image, and segmenting tissues for breast tumor ultrasound images.

People can upload datasets to create labels and collaborate labeling with other researchers and medical doctors. Also, it's possible to join and help the labeling work on the datasets shared by other users. Sharing your datasets to get help on labeling and taking advantages from open access datasets uploaded and labeled by other researchers.

MIDA Labeling System simplifies the labeling process and allows collaborative work with other users.

II. Upload dataset

After creating an account, you can start to upload your own dataset. By clicking the “UPLOAD DATASET” button at the home page to start creating a dataset.



To create a new dataset, you need to address a dataset name first, and then select the zipped dataset file. Please look at “Data Preparation README” to understand how to organize your dataset. There also has a sample dataset provided for downloading.

MIDA Labeling System

WELCOME, ssk. VIEW SITE

Upload Dataset

Dataset Name:

Zipped Dataset File: [\(Data Preparation README | Download sample dataset\)](#)

No file chosen

Public Permission:

Private (only the uploader can see)

You must choose one permission from four available options.

✓ Private (only the uploader can see)
Everyone can view
Everyone can edit/label
Everyone can download

Private: only the uploader can see and operate

Everyone can view: everyone can view but cannot do any operation

Everyone can edit/label: everyone can create labels but cannot export labels or images

Everyone can download: open all permissions for public, everyone has full access to edit/download labels and images

You can change the permission after upload by clicking “Setting” button.

Labeling System

MY DATASET

MyDataset1

PUBLIC DATASET

Test Dataset

Change bus dataset

HISTORY

Dataset Name:	MyDataset1	
Dataset Path:	MyDataset1_06cdbb247ceb11ec9c860242ac130003	
Creator:	ssk	
Permission:	<input checked="" type="checkbox"/> Private (only the uploader can see) <input type="checkbox"/> Everyone can view <input type="checkbox"/> Everyone can edit/label <input type="checkbox"/> Everyone can download	
Delete	Save and continue editing	SAVE

III. Label dataset

You could label your datasets or public datasets that uploaded by other users. All available datasets will be displayed in the home page.

Labeling System

MY DATASET	MyDataset1	Masking	Setting
PUBLIC DATASET	Test Dataset	Masking	

UPLOAD DATASET

UPLOAD OTHER DATASET

Recent actions

My actions

Clicking the dataset name to browse a dataset:

MIDA Labeling System

Home : My Dataset : MyDataset1

MY DATASET

MyDataset1 [Masking](#) [Setting](#)

PUBLIC DATASET

Test Dataset [Masking](#)

MyDataset1

UPLOAD DATASET CROPPING MASK TUMOR MASK TISSUE

Action: Go 0 of 25 selected

<input type="checkbox"/>	ID	IMAGE COUNT	APPLICABLE IMAGE COUNT	BIRADS LABEL STATUS	REMAINING CROPPING	REMAINING TUMOR MASK	REMAINING TISSUE MASK
<input type="checkbox"/>	1	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	2	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	3	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	4	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	5	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	6	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	7	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	8	1	1	●	1/1	1/1	1/1
<input type="checkbox"/>	9	1	1	●	1/1	1/1	1/1

Clicking an ID to go to a case detail page:

	ID	IMAGE COUNT	APPLICA
<input type="checkbox"/>	1	1	1
<input type="checkbox"/>	2	1	1
<input type="checkbox"/>	3	1	1
<input type="checkbox"/>	4	1	1

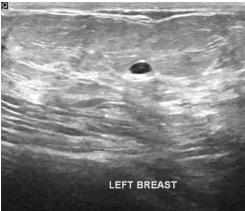
MIDA Labeling System

Home - My Dataset - MyDataset1 - 1

MY DATASET
MyDataset1 Masking Setting

PUBLIC DATASET
Test Dataset Masking

ID: 1

Image/Annotation Preview:  LEFT BREAST

BI-RADS Label: BI-RADS

Other Information (Show)

MYDATASET1 IMAGES
MyDataset1 Image: MyDataset1_06cd8b247ceb11ec9c860242ac130003/images/case1.png Change

Cropping: Cropping

Mask Tumor: Mask Tumor

Mask Tissue: Mask Tissue

i. Set availability of images

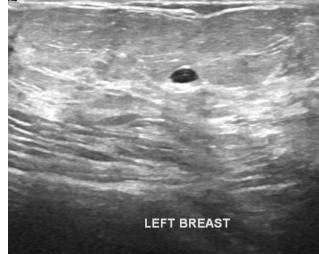
For a specific case, it may contain multiple images, e.g., ultrasound images captured from different angles, doppler images or other kind of images. The first step is to set image availability for each image by setting the “Applicable” checkbox in case detail page:

MYDATASET1 IMAGES
MyDataset1 Image: MyDataset1_06cd8b247ceb11ec9c860242ac130003/images/case1.png Change

Cropping: Cropping

Mask Tumor: Mask Tumor

Mask Tissue: Mask Tissue

Image/Annotation Preview:  LEFT BREAST

Applicable

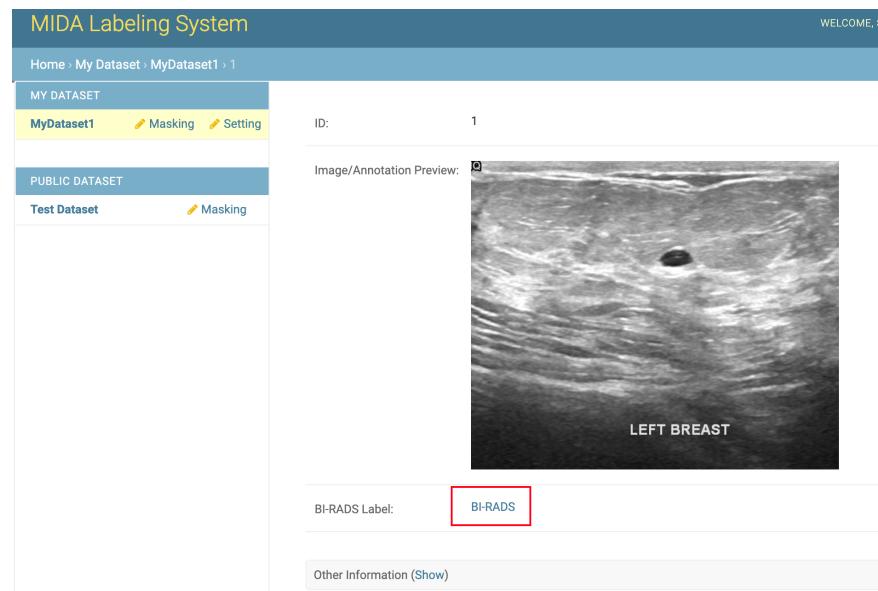
For example, your dataset has mixed doppler and ultrasound images and the research topic only intend to use ultrasound images. You should unselect

“Applicable” for all doppler images to indicate the availability. In other case, if an image is undesired for your research, such as fuzzy or incomplete, you can also unselect “Applicable” to rule it out from the further labeling processes.

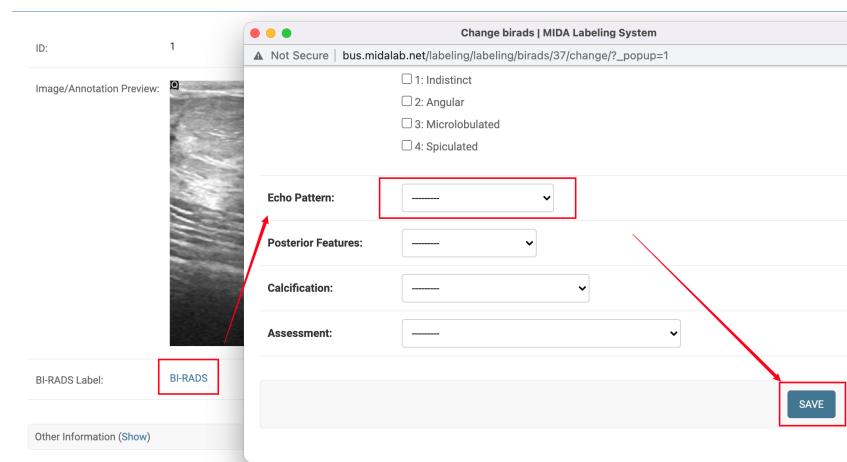
The inapplicable images won’t be deleted from disk but only won’t appear in the masking sequence.

ii. Create BI-RADS label

In case detail page, click the “BI-RADS” button to start labeling.

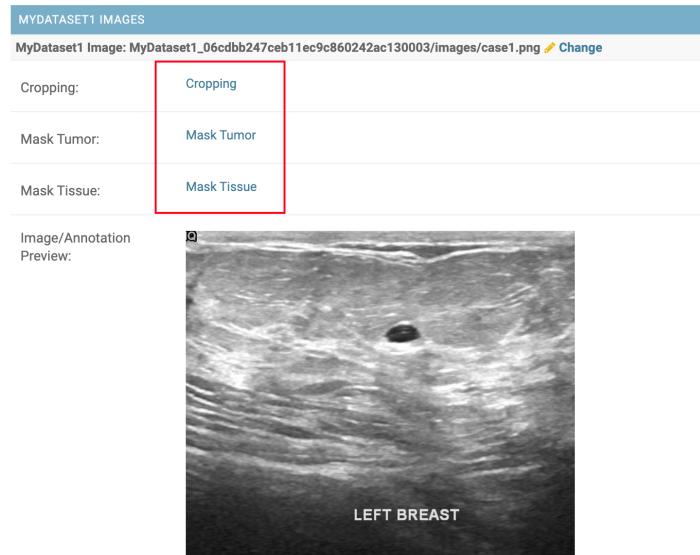


After clicking, a pop-up window will appear:

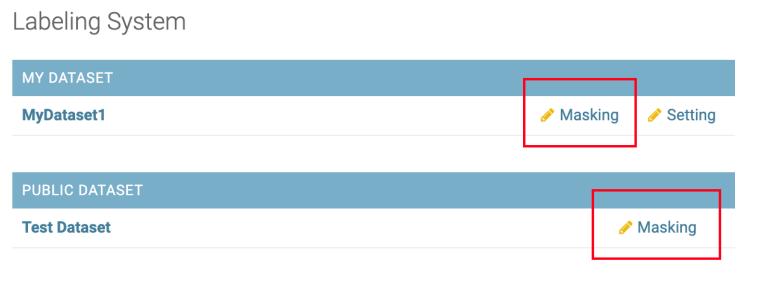


iii. Crop and mask tumor/tissue on images

There have two entries to start image cropping/tumor masking/tissue masking.
The first way is in case detail page, clicking the button will start to mask:

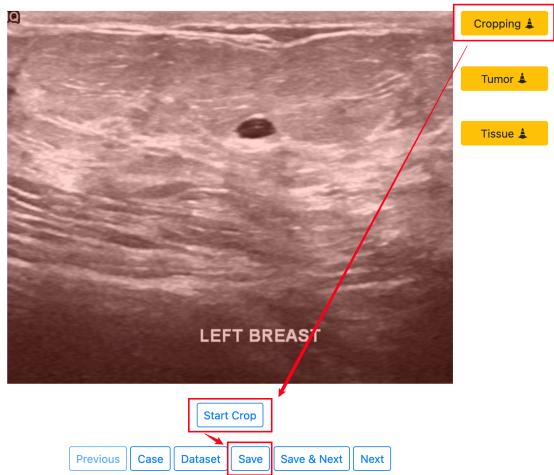


Or you could click the “Masking” button after a dataset name to start labeling:

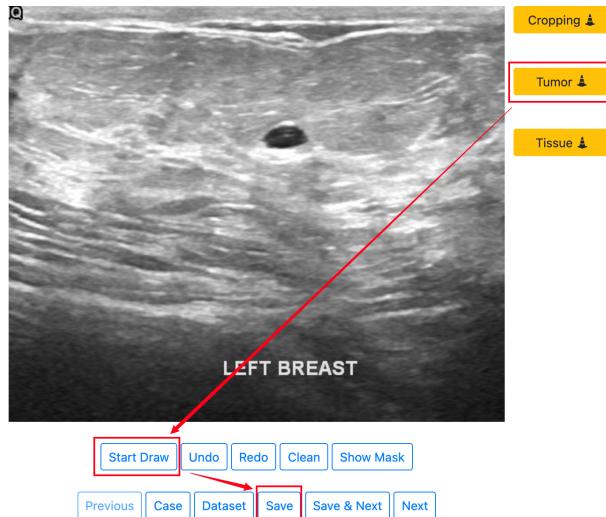


By clicking “Masking” button, you will start from the first unlabeled applicable images in the masking sequence.

To crop an image, click “Cropping” → “Start Crop”, then dragging your mouse with left button down from the top-left to right-bottom of the image to select desired region:

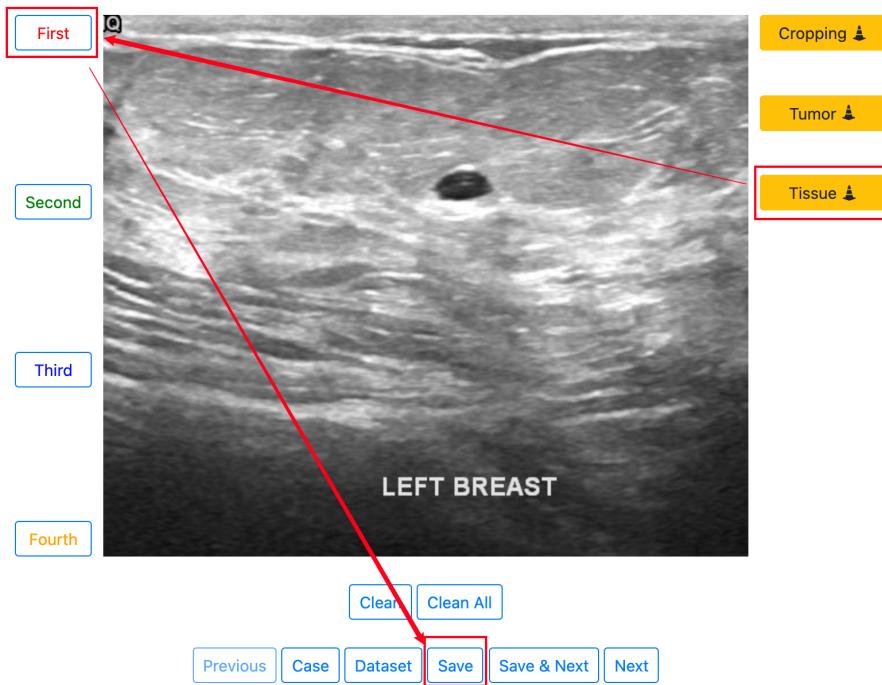


To mask tumor, click “Tumor” → “Start Draw”, then dragging your mouse with left button down to outline the tumor area.



While masking, please keep strokes clockwise.

To mask tissue, click “Tissue” → “First” or “Second/Third/Fourth”, then dragging your mouse with left button down from left to right horizontally to segment the image:



Be sure to drag from left to right always.

You can click “Save” button to save your label, then click “Next” to continue with next images in the masking sequence, or just simply click “Save & Next” to do two steps in one click.

IV. Export dataset

Select cases (or select all) you want to export → Choose “Export your labels” or “Export all labels” in action drop-list → Click “Go” to download

Action:	ID	APPLICABLE IMAGE COUNT	BIRADS
<input type="checkbox"/>	1	1	0
<input checked="" type="checkbox"/>	2	1	0
<input checked="" type="checkbox"/>	3	1	0
<input checked="" type="checkbox"/>	4	1	0
<input type="checkbox"/>	5	1	0

“Export your labels” will export labels created by your account. “Export all labels” will export labels created by all users (includes your labels).