

Project Title: Image Augmentation

Branch : Computer Science and Engineering

Division : B

Batch : B2

Team Details:

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19BCE121 - Harsh Maradia

19BCE123 - Jash Mavani

Project Directory:

/assets/ : MakeData.ui,Interface.ui,logo.png,temp.png.

/sample/ : Sample images to test run.

/test/ : Sample of tested images.

/ : aug.py
requirements.txt
readme.pdf

Packages :

PyQt5==5.15.4

tensorflow==2.4.1

Keras==2.4.3

numpy==1.19.5

scipy==1.6.1

matplotlib==3.3.4

To install the above packages requirements.txt should be located in the project directory.

Run command : pip install -r requirements.txt

Alternate command : pip3 install -r requirements.txt

Note: To run the above commands , the python environment should be equipped with pip/pip3 scripts.

How to run the project ?

aug.py is the original file containing the code.

To run the project following steps are to be followed:

1. Navigate to the project directory.

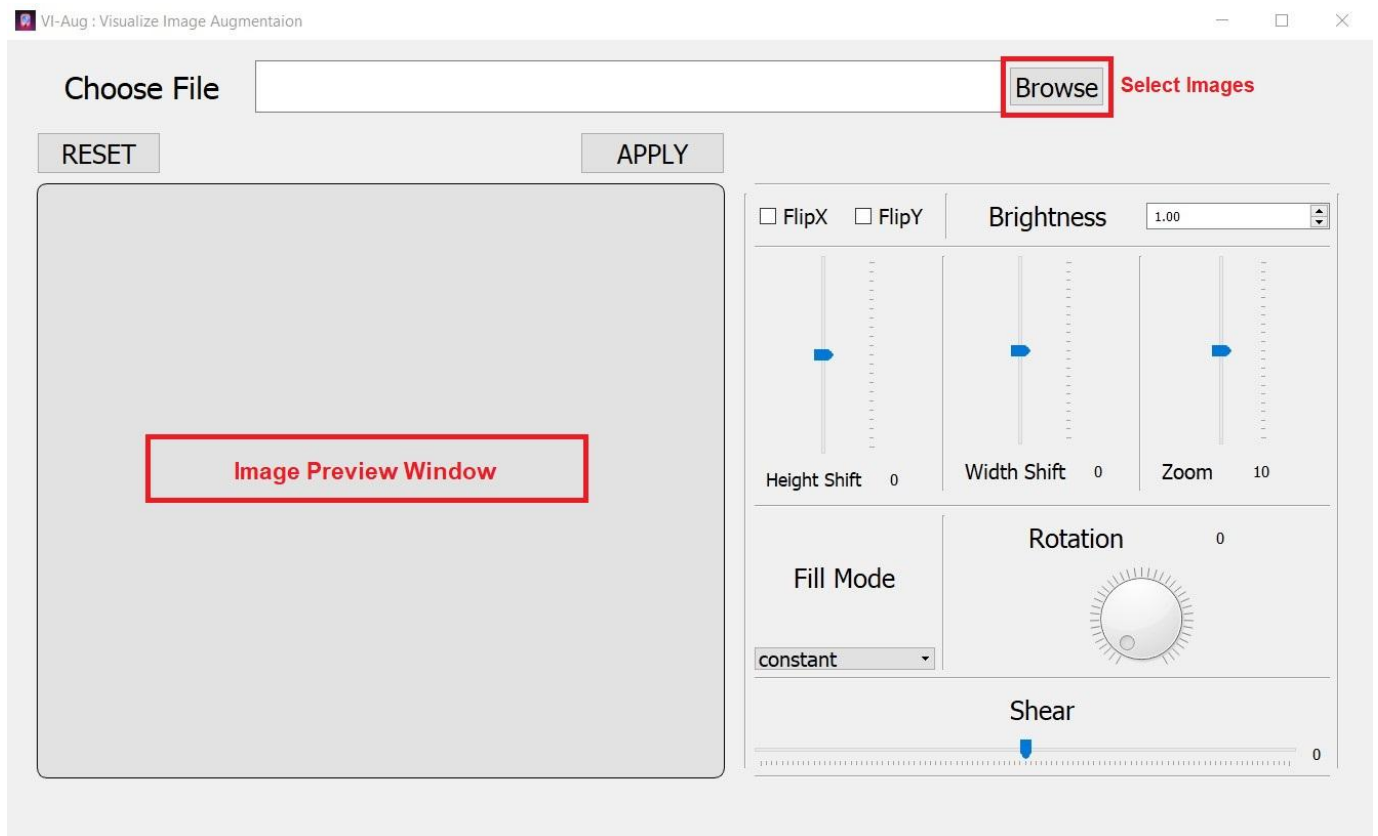
2. Open Command Prompt/Terminal in the project directory.
3. Write command : **python aug.py**
If this doesn't work write : **python3 aug.py**

Input: Image files (multiple at a time allowed) .

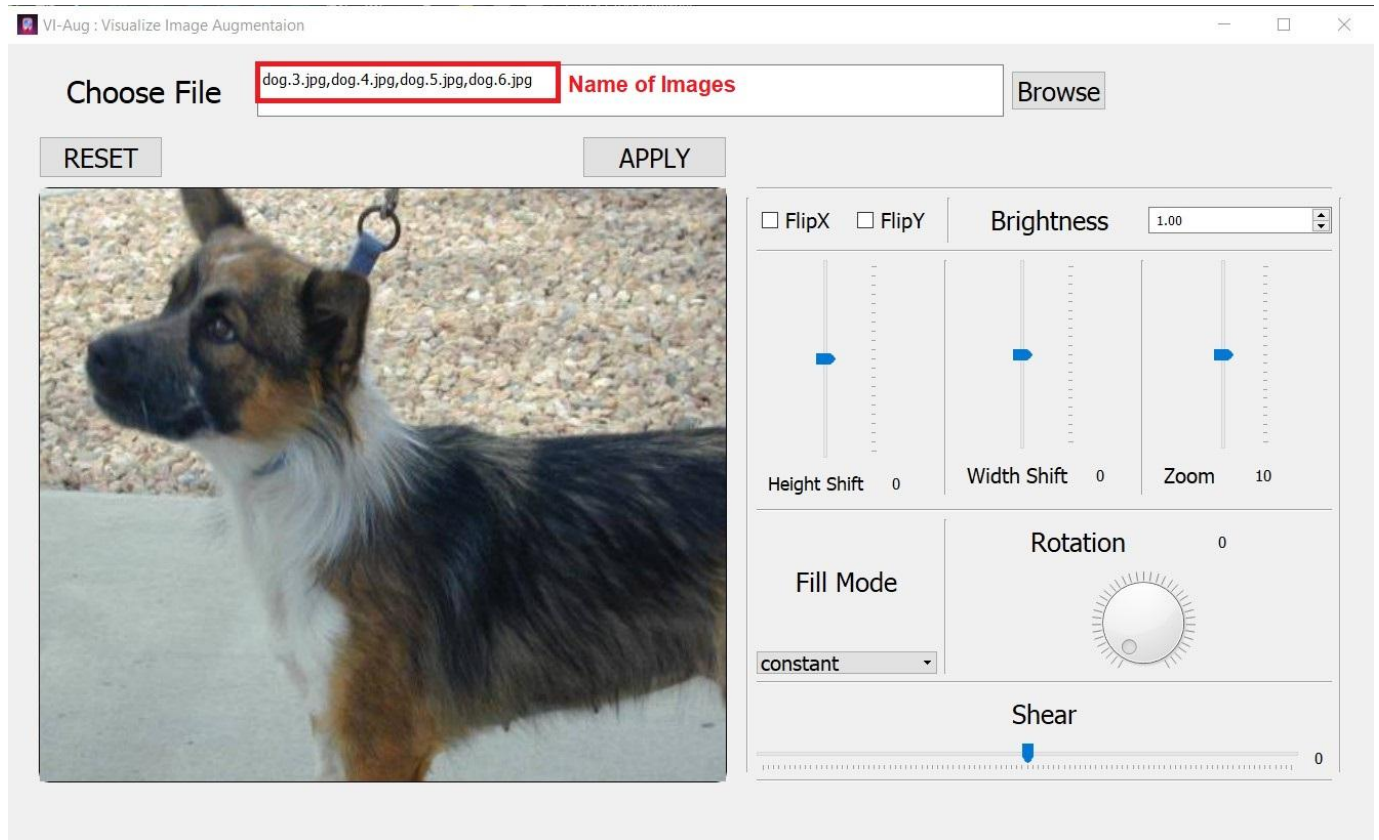
Output: Batches of Images as selected by the user when effects are applied images.
Users can select the destination folder.

Tool Components :

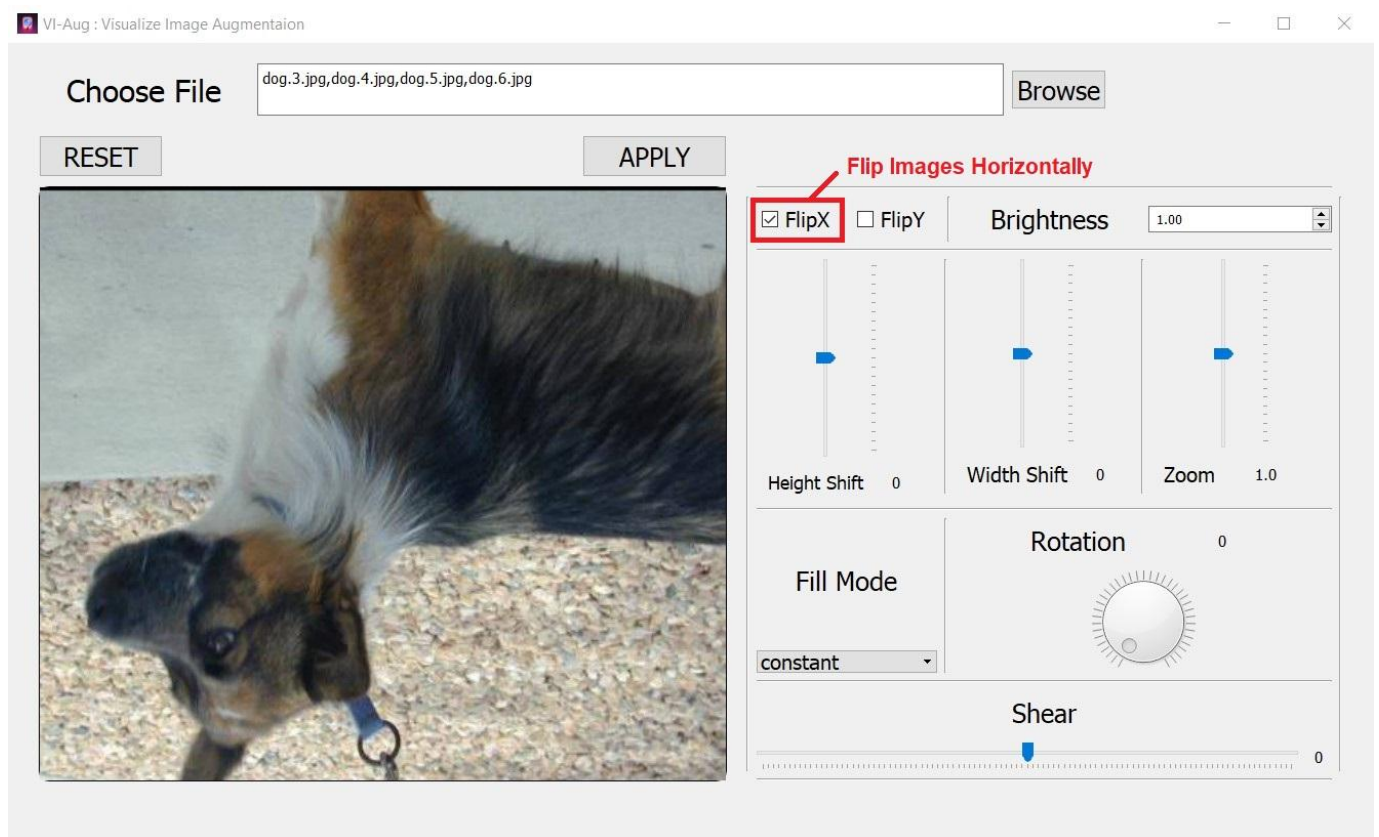
Browse: Select Images from Directory



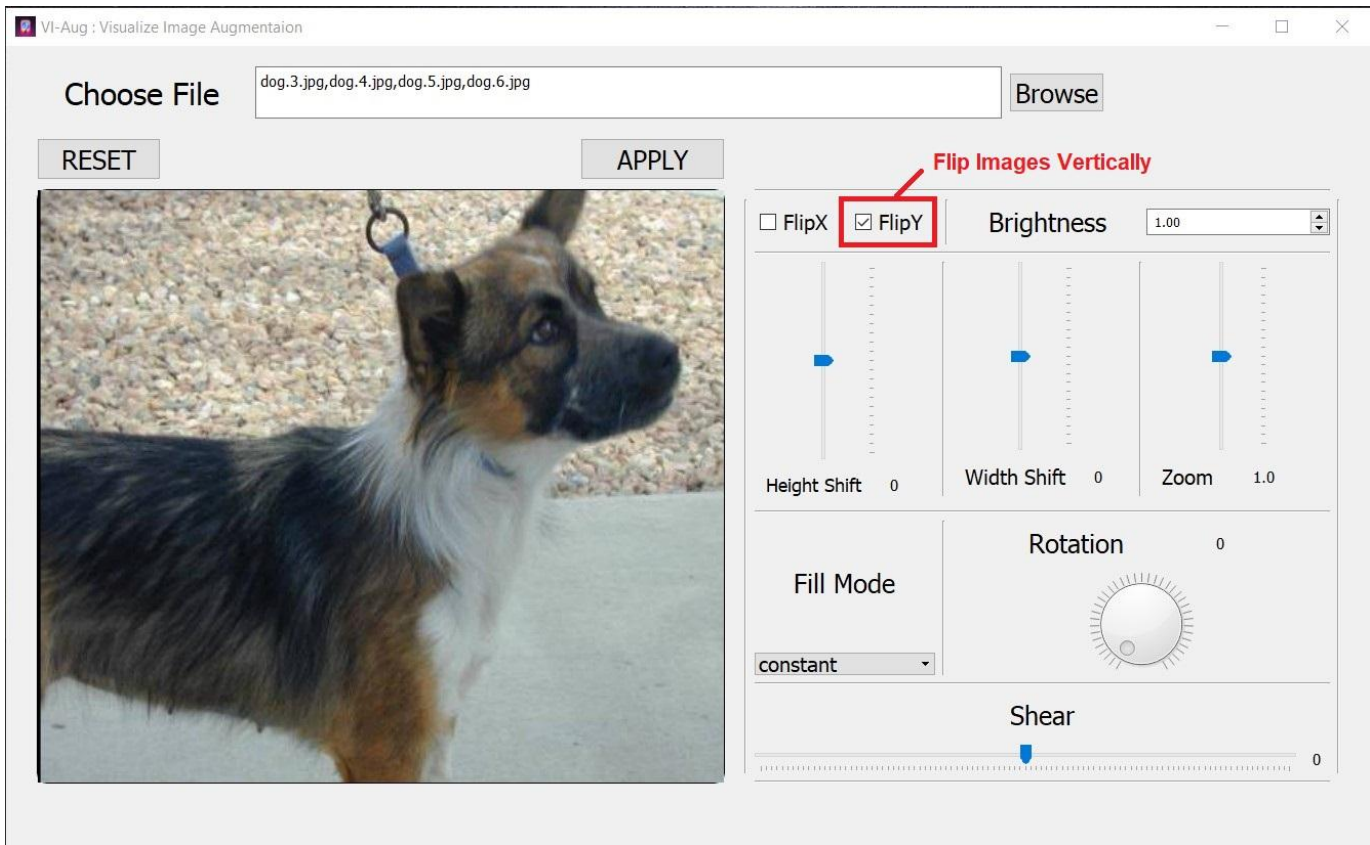
Allowed Image extensions : jpg,jpeg,png,gif.



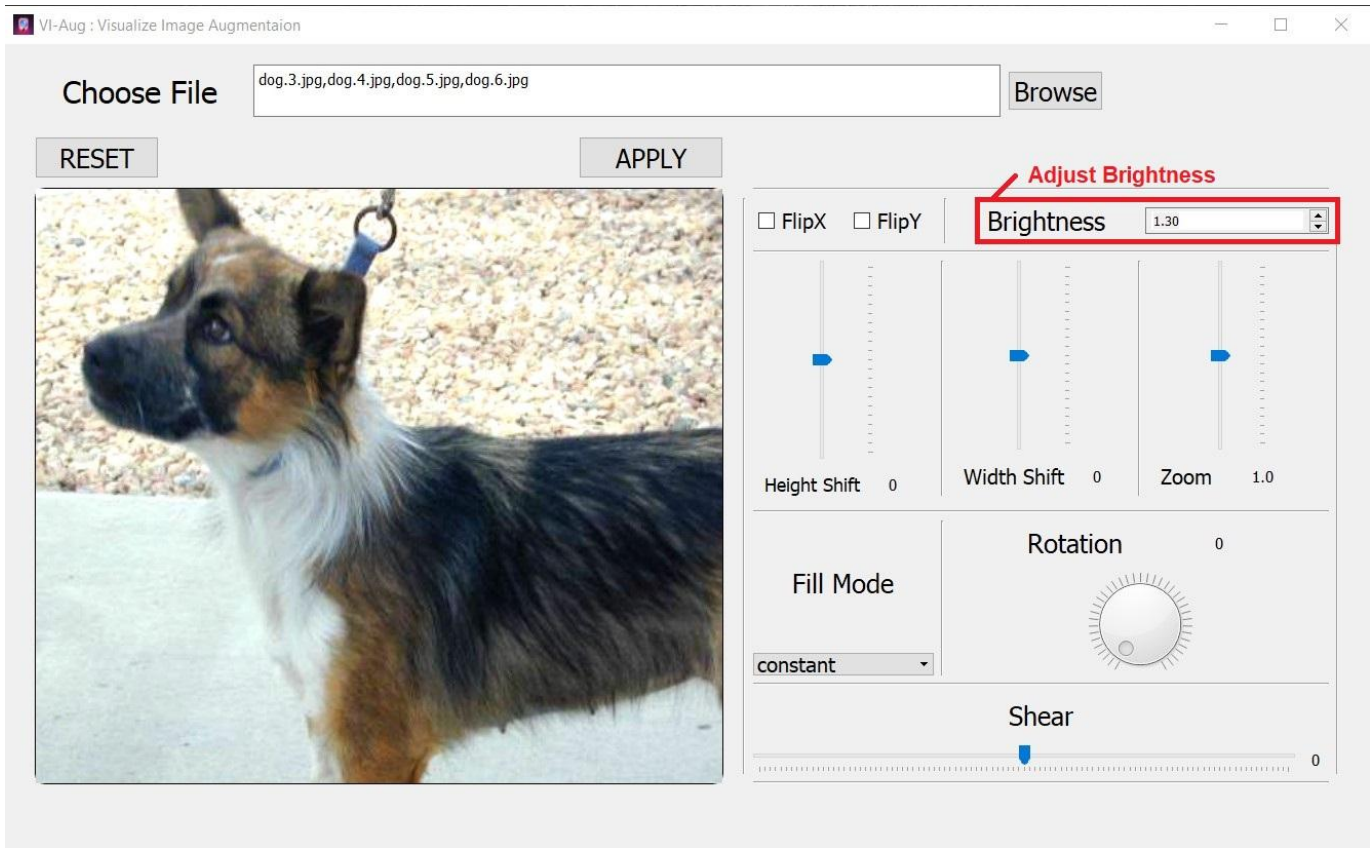
Flip-X : Flip Image along X-axis.



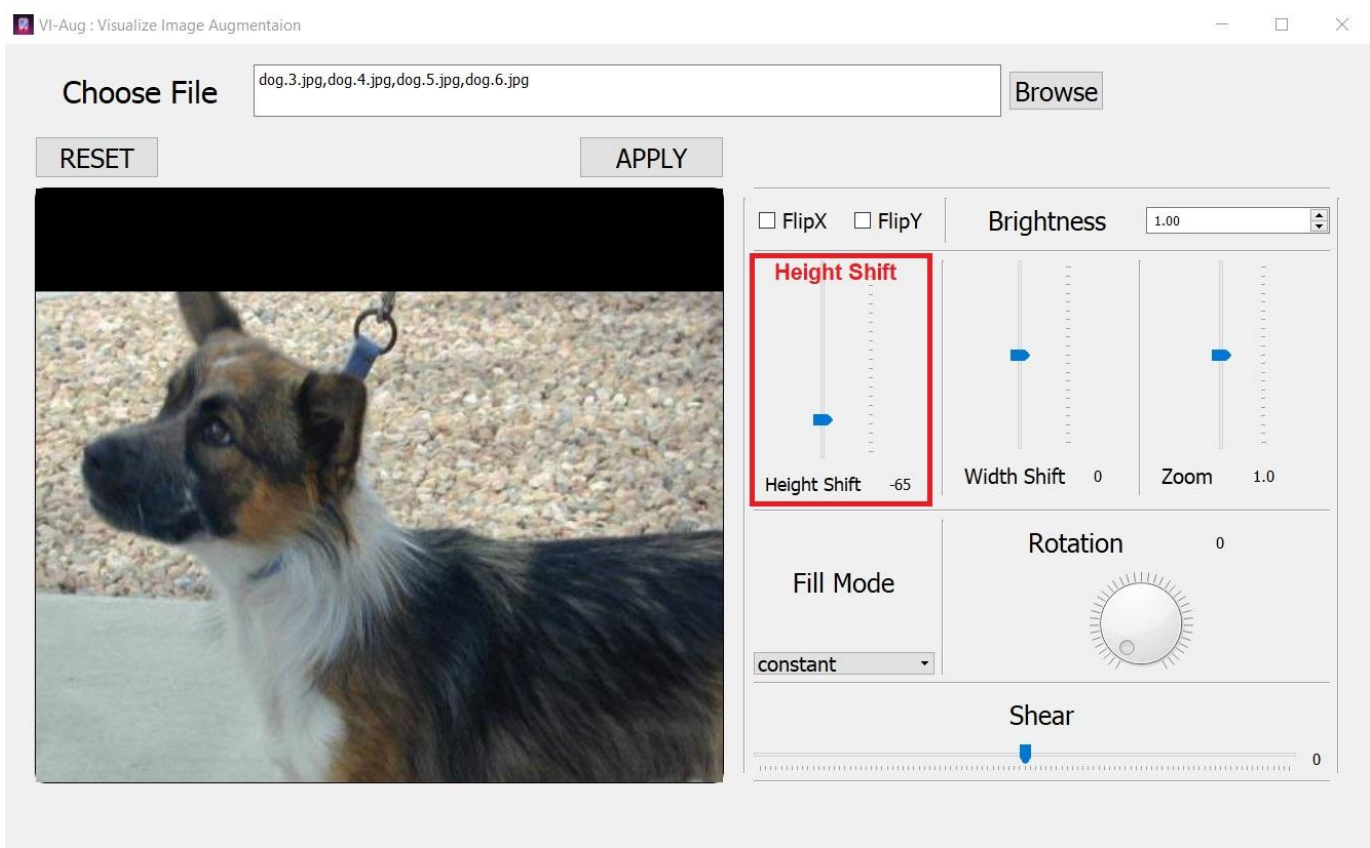
Flip-Y : Flip Image along Y-axis.



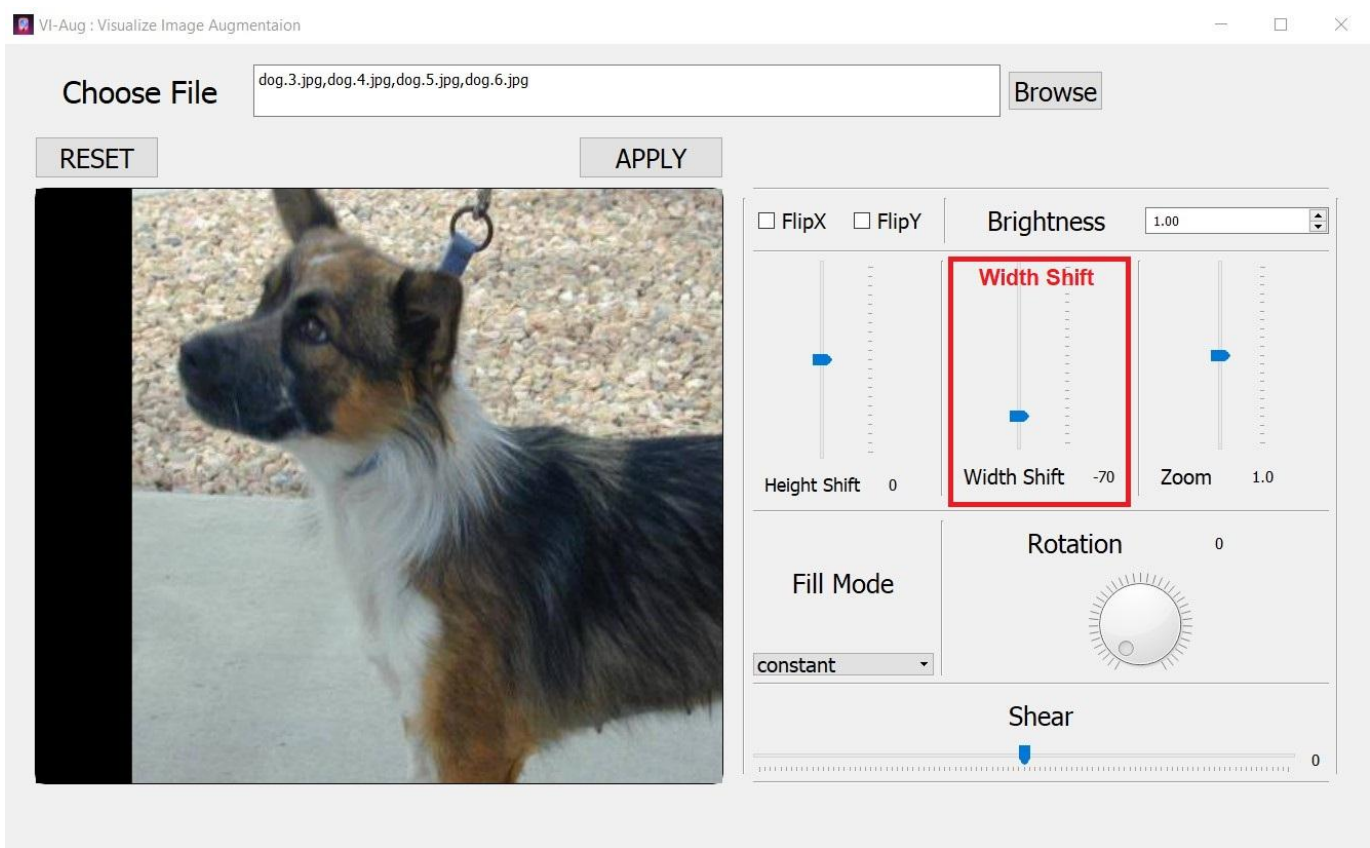
Brightness : Adjust brightness.



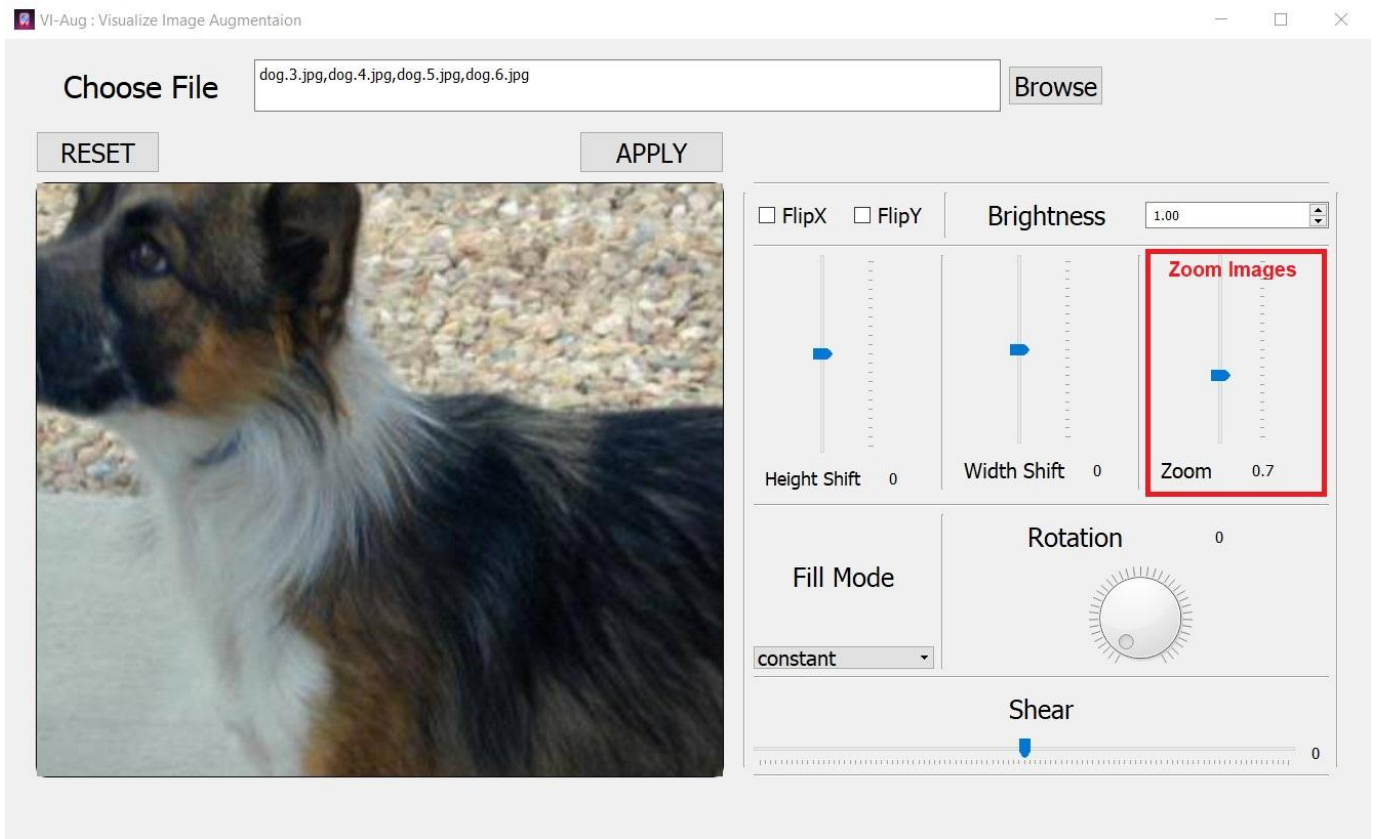
Height Shift : Move Image Vertically.



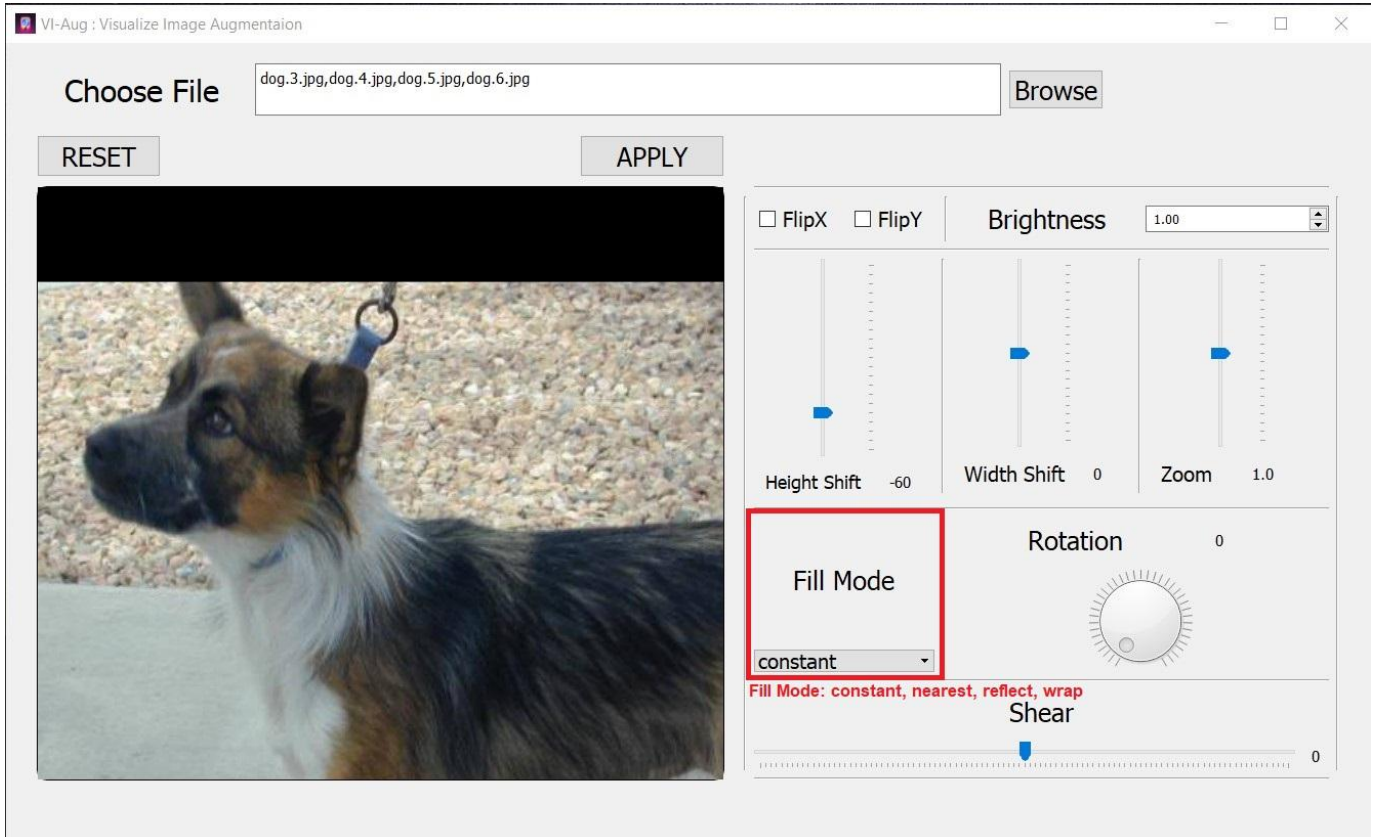
Width Shift : Move Image Horizontally.



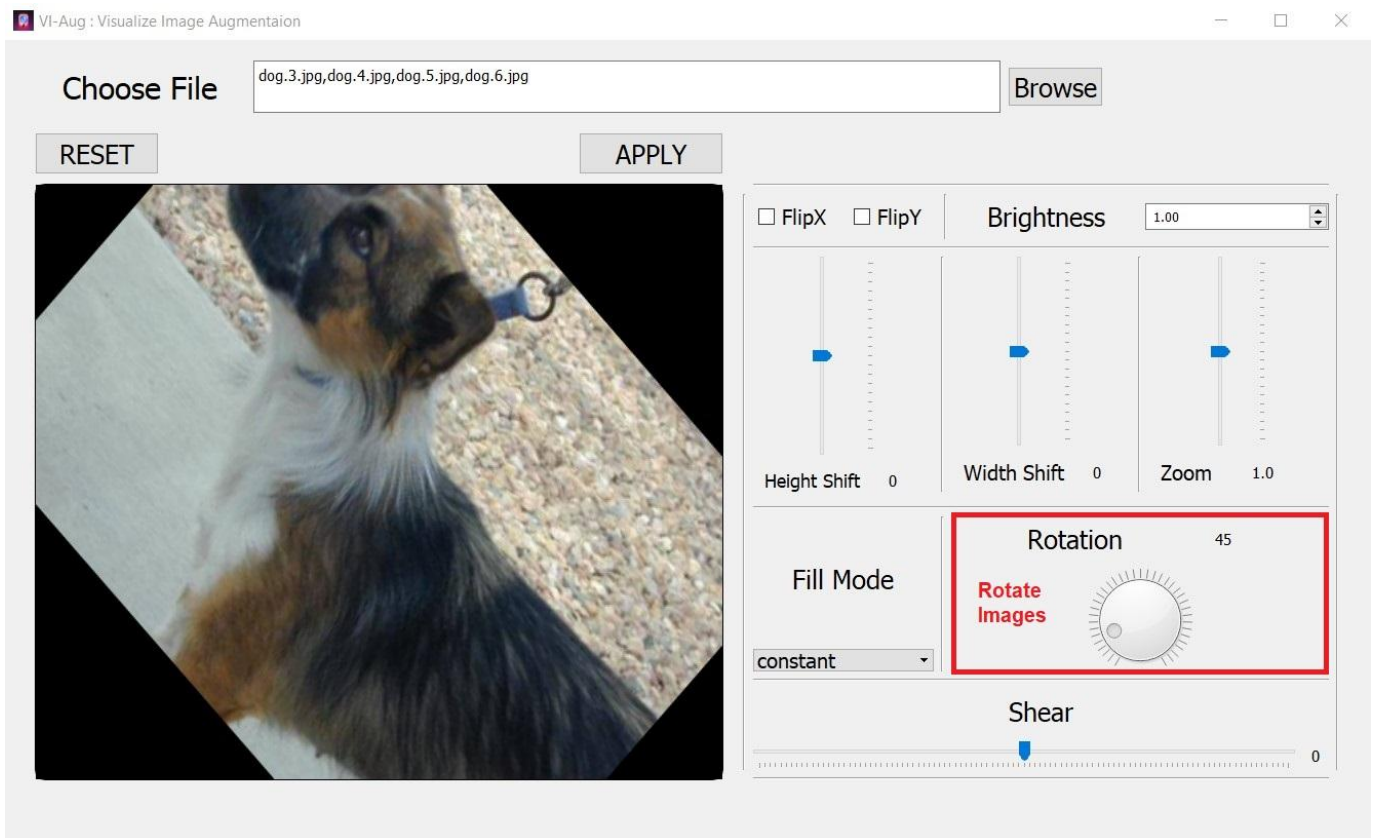
Zoom : Zoom in or Zoom out.



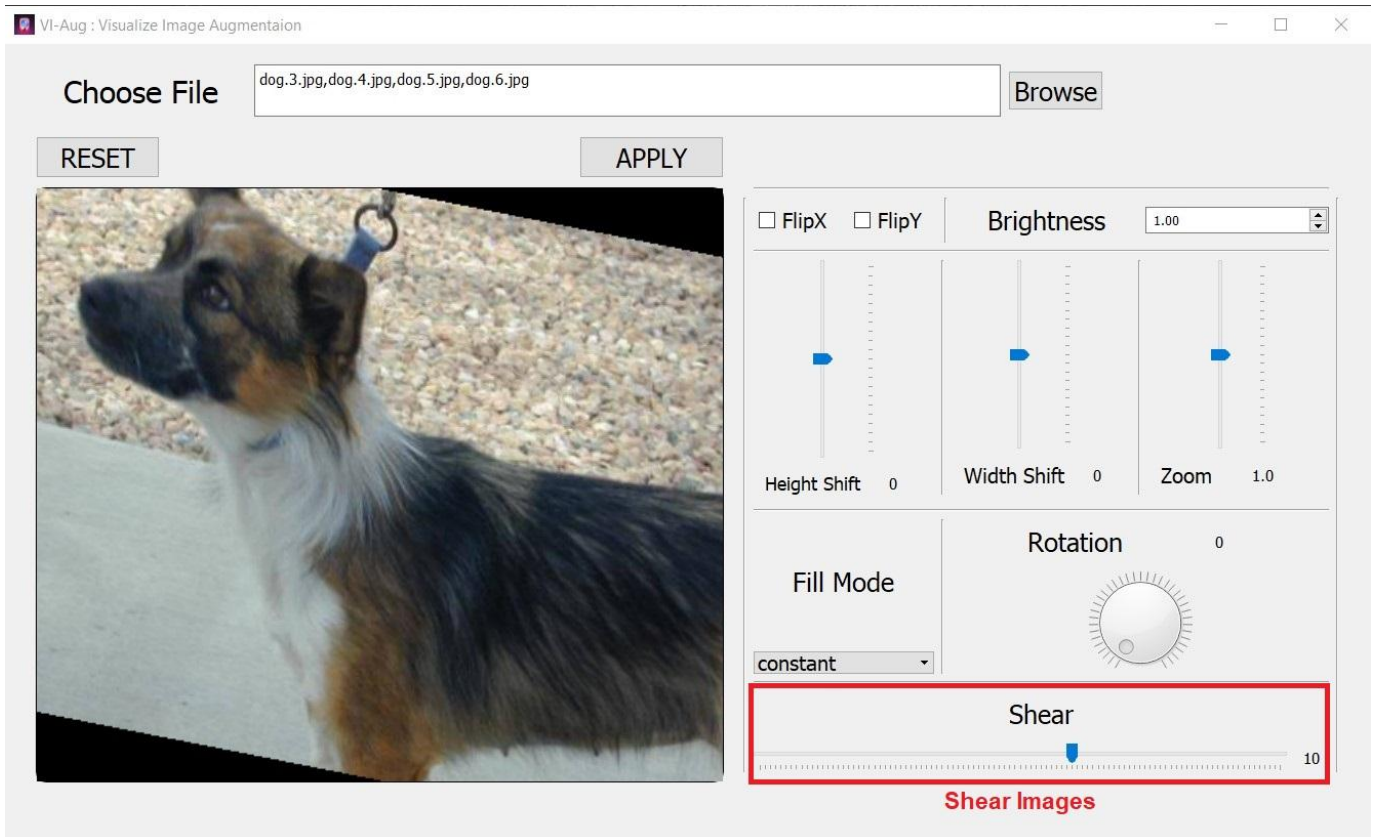
Fillmode: Select fill options.



Rotation: Rotate the Image 0° to 360°.



Shear : Stretch image horizontally.



Browse: Select Destination Folder.

Save - VI-Aug

Destination Folder

Browse

Select Destination Folder

Height Slider : 3
Width Slider: -25
Flip X: False
Flip Y: True
Rotation : 352
Shear Value: 10
Zoom : 13.000
Brightness : 1.300

Batch Size

Set Prefix

Save File Type

Save

Save - VI-Aug

Destination Folder

Browse

Destination Folder Path

Height Slider : 3
Width Slider: -25
Flip X: False
Flip Y: True
Rotation : 352
Shear Value: 10
Zoom : 13.000
Brightness : 1.300

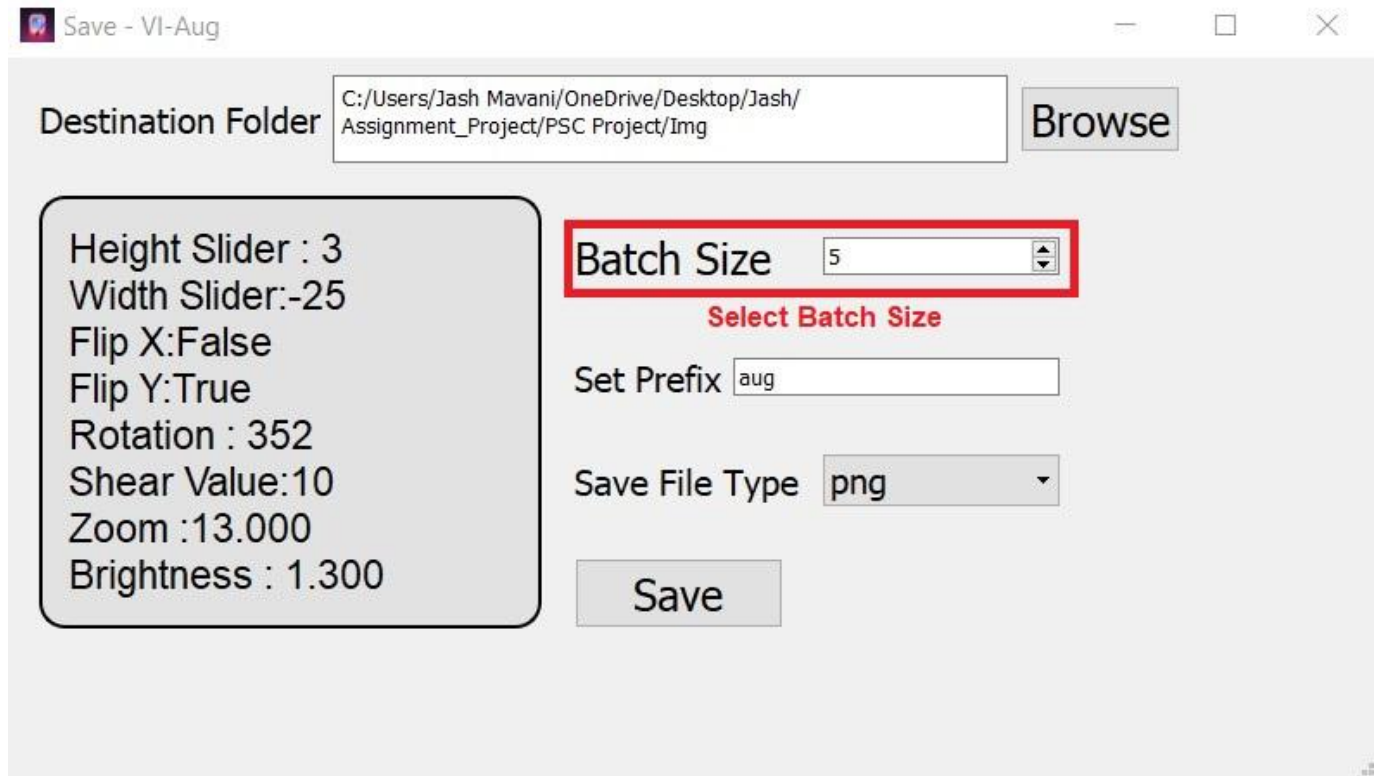
Batch Size

Set Prefix

Save File Type

Save

Batch Size : Select batch size for each photo to augment.



The screenshot shows the 'Save - VI-Aug' application window. The 'Destination Folder' is set to 'C:/Users/Jash Mavani/OneDrive/Desktop/Jash/Assignment_Project/PSC Project/Img'. The 'Batch Size' is set to 5, which is highlighted with a red box. The 'Set Prefix' is 'aug' and the 'Save File Type' is 'png'. The 'Save' button is visible. A list of augmentation parameters is shown on the left: Height Slider : 3, Width Slider:-25, Flip X:False, Flip Y:True, Rotation : 352, Shear Value:10, Zoom :13.000, and Brightness : 1.300.

Destination Folder: C:/Users/Jash Mavani/OneDrive/Desktop/Jash/Assignment_Project/PSC Project/Img

Batch Size: 5

Select Batch Size

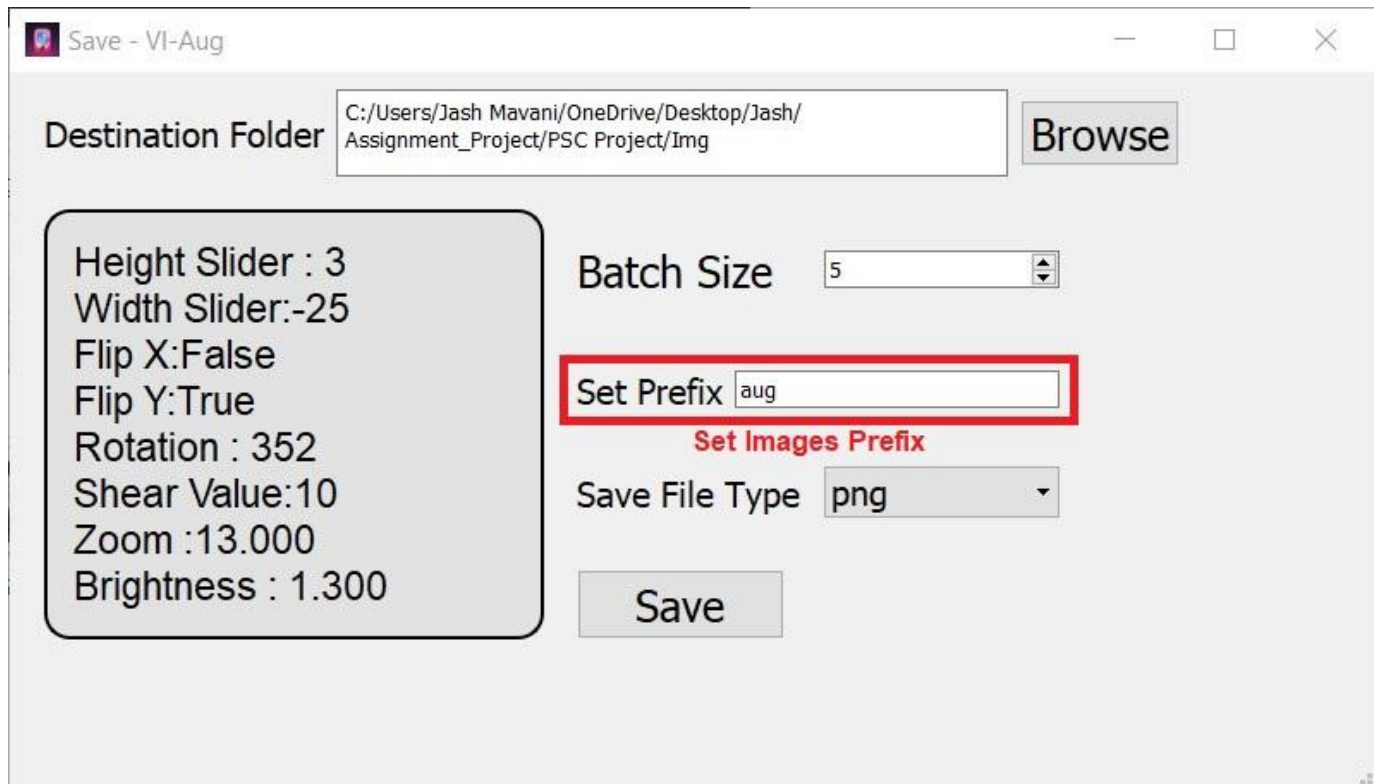
Set Prefix: aug

Save File Type: png

Save

Height Slider : 3
Width Slider:-25
Flip X:False
Flip Y:True
Rotation : 352
Shear Value:10
Zoom :13.000
Brightness : 1.300

Prefix : Mention prefix for given batch of images(default prefix : aug).



The screenshot shows the 'Save - VI-Aug' application window. The 'Destination Folder' is set to 'C:/Users/Jash Mavani/OneDrive/Desktop/Jash/Assignment_Project/PSC Project/Img'. The 'Batch Size' is set to 5. The 'Set Prefix' is 'aug', which is highlighted with a red box. The 'Save File Type' is 'png'. The 'Save' button is visible. A list of augmentation parameters is shown on the left: Height Slider : 3, Width Slider:-25, Flip X:False, Flip Y:True, Rotation : 352, Shear Value:10, Zoom :13.000, and Brightness : 1.300.

Destination Folder: C:/Users/Jash Mavani/OneDrive/Desktop/Jash/Assignment_Project/PSC Project/Img

Batch Size: 5

Set Prefix: aug

Set Images Prefix

Save File Type: png

Save

Height Slider : 3
Width Slider:-25
Flip X:False
Flip Y:True
Rotation : 352
Shear Value:10
Zoom :13.000
Brightness : 1.300

Extension : Select extension for given batch of images(default extension : .png).
Allowed Extensions : png , jpeg .

Save - VI-Aug

Destination Folder: C:/Users/Jash Mavani/OneDrive/Desktop/Jash/Assignment_Project/PSC Project/Img Browse

Height Slider : 3
Width Slider:-25
Flip X:False
Flip Y:True
Rotation : 352
Shear Value:10
Zoom :13.000
Brightness : 1.300

Batch Size: 5

Set Prefix: aug

Save File Type: png Extension: png, jpeg

Save

Save: Save images at the selected destination folder

Save - VI-Aug

Destination Folder: C:/Users/Jash Mavani/OneDrive/Desktop/Jash/Assignment_Project/PSC Project/Img Browse

Height Slider : 3
Width Slider:-25
Flip X:False
Flip Y:True
Rotation : 352
Shear Value:10
Zoom :13.000
Brightness : 1.300

Batch Size: 5

Set Prefix: aug

Save File Type: png

Save Save Images

