

# API Documentation

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# 1 Module `client_gui`

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Prereqs: python 3 sudo apt install python3-tk pip3 install Pillow, opencv-python, ttkthemes

## 1.1 Class `GuiClass`



Graphical User Interface for 2019 AUVSI competition  
 Tab 0: Setting for setting up the server\_error  
 Tab 1: Pull raw images and submit cropped images  
 Tab 2: Pull cropped iamges and submit classification for images  
 Tab 3: Display results for manual and autonomous classification

### 1.1.1 Methods

**`__init__(self, master=None)`**

initialization for Gui Class

**Parameters**

**tk.Frame:** nothing  
*(type=nothing)*

**Return Value**

None  
*(type=None)*

**`get_image(self, path)`**

Reads in an image from folder on computer

**Parameters**

**path:** the file path to where the image is located  
*(type=file path)*

**Return Value**

Numpy array of selected image  
*(type=Numpy image array)*

**np2im**(*self*, *image*)

Converts from numpy array to PIL image

**Parameters**

**image:** Numpy array of selected image  
(*type=Numpy image array*)

**Return Value**

PIL image of numpy array  
(*type=PIL image*)

**im2tk**(*self*, *image*)

Converts from PIL image to TK image

**Parameters**

**image:** PIL image of numpy array  
(*type=PIL image*)

**Return Value**

TK image of PIL image  
(*type=TK image*)

**mouse\_click**(*self*, *event*)

Saves pixel location of where on the image the mouse clicks

**Parameters**

**event:** mouse event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**mouse\_move**(*self*, *event*)

Gets pixel location of where the mouse is moving and show rectangle for crop preview

**Parameters**

**event:** mouse event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**mouse\_release**(*self*, *event*)

Saves pixel location of where the mouse clicks and creates crop preview

**Parameters**

**event:** mouse event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**close\_window**(*self*, *event*)

Closes gui safely

**Parameters**

**event:** ESC event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**resizeEventTab0**(*self*, *event=None*)

Resizes picture on Tab0

**Parameters**

**event:** resize window event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**resizeEventTab1**(*self*, *event=None*)

Resizes pictures on Tab1

**Parameters**

**event:** resize window event  
(*type=event*)

**Return Value**

None  
(*type=None*)

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**resizeEventTab2**(*self*, *event*=None)

Resizes picture on Tab2

**Parameters**

**event:** resize window event  
*(type=event)*

**Return Value**

None  
*(type=None)*

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**resizeIm**(*self*, *image*, *image\_width*, *image\_height*, *width\_restrict*, *height\_restrict*)

Resizes PIL image according to given bounds

**Parameters**

**image:** PIL image that you want to crop  
*(type=PIL image)*

**image\_width:** the original image width in pixels  
*(type=integer)*

**image\_height:** the original image height in pixels  
*(type=integer)*

**width\_restrict:** the width in pixels of restricted area  
*(type=integer)*

**height\_restrict:** the height in pixels of restricted area  
*(type=integer)*

**Return Value**

Resized PIL image  
*(type=PIL image)*

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**cropImage**(*self*, *x0*, *y0*, *x1*, *y1*)

Crops raw image

**Parameters**

**x0:** pixel x location of first click  
*(type=integer)*

**y0:** pixel y location of first click  
*(type=integer)*

**x1:** pixel x location of second click  
*(type=integer)*

**y1:** pixel y location of second click  
*(type=integer)*

**Return Value**

None  
*(type=None)*

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**undoCrop**(*self*, *event*=None)

Undoes crop and resets the raw image

**Parameters**

**event:** Ctrl + Z event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**nextRaw**(*self*, *event*)

Requests and displays next raw image

**Parameters**

**event:** Right arrow event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**previousRaw**(*self*, *event*)

Requests and displays previous raw image

**Parameters**

**event:** Left arrow event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**submitCropped**(*self*, *event*=None)

Submits cropped image to server

**Parameters**

**event:** Enter press or button press event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**nextCropped**(*self*, *event*)

Requests and displays next cropped image

**Parameters**

**event:** Right arrow event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**prevCropped**(*self*, *event*)

Requests and displays previous cropped image

**Parameters**

**event:** Left arrow event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**submitClassification**(*self*, *event=None*)

Submits classification of image to server

**Parameters**

**event:** Enter press event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**tabChanged**(*self*, *event*)

Performs the correct keybindings when you move to a new tab of the gui

**Parameters**

**event:** Tab changed event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**updateSettings**(*self*, *event*=None)

Attempts to connect to server when settings are changed

**Parameters**

**event:** Enter press or button press event  
(*type=event*)

**Return Value**

None  
(*type=None*)

**pingServer**(*self*)

Checks if server is correctly connected

**Return Value**

None  
(*type=None*)

**disableEmergentDescription**(*self*, \**args*)

Disables emergent discription unless emergent target selected

**Return Value**

None  
(*type=None*)



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