

MATLAB Image processing

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Quiz Instructions

MATLAB Image processing

MATLAB provides many functions to import, transform, analyze, and export images and video content. See basic documentation on [images](#). Watch the videos [Image Processing Toolbox introductory video](#) , [What is Image Processing Toolbox](#), and [Introduction to MATLAB with Image Processing Toolbox](#). An introduction to image processing documentation is [Getting Started with Image Processing Toolbox](#), the first module in the [Image Processing Toolbox documentation](#).

The template Live Script [ImageProcessing.mlx](#) ([ImageProcessing.pdf](#)

[Minimize File Preview](#)

) walks through some elementary image processing functions while introducing you to MATLAB best practices and providing tips. (Tip: Click the magnifying glass to preview the pdf file.) You will be using some of these functions in the Computer Vision prelab and lab. The overall goal is of this script and many other provided scripts is to teach you MATLAB just-in-time while **doing**. Note that each function name when first introduced is hyperlinked to the appropriate documentation. **Follow each of the hyperlinks in the script** to see precisely how to call the various functions. Soon this kind of hunting and pecking will become 2nd nature to you.

Download the script into a new subfolder called Image Processing in your personal MATLAB folder in your MATLAB path. Navigate to the file in the files pane and double-click the filename to launch the file in the Live Editor. Click the green Run arrow at the top of the Live Editor tab to run the script. Find and use the buttons at the top right of the editor pane if needed to display output interleaved inline with the script code and text, not in miniature to the right.

Review [Create Live Scripts in the Live Editor](#) .

Using the provided Live Script as a template/guide in a Live Editor tab, use the New dropdown menu and select Live Script to open a parallel tab in the Live Script editor pane, and immediately save your blank script with filename Lastname_FirstName_ImageProcessing.mlx.

Write from scratch your first [Live Script](#) . Start in text mode and Title font by entering the title Lastname_FirstName_ImageProcessing . Add in normal font Author: YourFirstName YourLastName. Between these in normal font, write a brief description.

Now create a section break, and switch to code entry. Enter a few lines of random code you have learned like 'x=5' just to test the mechanics and execute the script. You are on your way.

Emulating the supplied script by accurately typing or copying one line at a time, create your own code to analyze an internet photograph of [soap bubbles](#) , [stars](#), or [fruit](#) that you select. Your goal is to segment out and count the objects in the image you have selected. Start by choosing an image, noting its URL, and using that URL in the your version of the import step, just as the template code does this.

Tip: To get the URL for an image, open the image alone in a new tab and copy THAT url, or control-click an image in some browsers and copy the target url. It should end in an image file format like jpg.

Remember, go one line at a time, understanding each step, and type each line yourself so you focus your attention on each word. Do not just tweak the template. If you don't understand a line after looking up the function, pose a question at PIAZZA quoting the line. You need not emulate every step in the template. You can use Save As.. to make a copy of the template, insert your URL, and run all steps in this copy just to check things out.

In YOUR script, replace any template comments with your own comments and use hyperlinks to document your work and the resources you find. To create a hyperlink, drag over the target text and hit and hold control on the keyboard. You will be prompted for a URL.

When your script is working and documented, be sure it displays results inline with the code, not to the side, Save, and then, under Save, select Export to pdf to export a pdf of your executed Live Script. The export may take a minute. Open the pdf in a viewer application and check that it is viewable and that plots and images are rendered correctly.

When your script is totally working, repeat the export and checking steps and then...

Upload the pdf (NOT the .mlx file) in response to the question below.

Welcome to MATLAB!

Question 1 50 pts

Object segmentation Live Script

Upload your first MATLAB Live Script showing segmentation of objects in an image. Credit will be awarded for

Rubric

Title and author name	10 pts
Readability/comments	10 pts
MATLAB code	10 pts
Successful object segmentation and counting	20 pts

Upload

Choose a File

Choose File No file chosen

