

How to get started with MATLAB

MATLAB is a very-easy-to-use programming language. The following are a few tips on how to get started with MATLAB.

1, I will give a few live demos during lectures. You can observe how I will be doing.

2, You can then follow this PPT to practise:

<https://web.eecs.umich.edu/~aey/eecs451/matlab.pdf>

This PDF is more comprehensive, making you an expert:

<https://www.mccormick.northwestern.edu/documents/students/undergraduate/introduction-to-matlab.pdf>

3, The following two steps are what I often do for help during coding. For example, If I want to do convolution,

3.1, I will google “convolution MATLAB”, this is the first item you see, from which you know the functions to use are conv for 1D case and conv2 for 2D case.

Convolution and polynomial multiplication - MATLAB conv

Description. example. `w = conv(u,v)` returns the **convolution** of vectors `u` and `v`. If `u` and `v` are vectors of polynomial coefficients, **convolving** them is equivalent to ...

MATLAB conv

`w = conv(u,v, shape)` returns a subsection of the convolution ...

Conv

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Conv2

The `conv2` function allows you to control the size of the output ...

[More results from mathworks.com »](#)

3.2 In MATLAB console, I will type “help conv2”, and this is what you see:

```
>> help conv2
conv2 Two dimensional convolution.
C = conv2(A, B) performs the 2-D convolution of matrices A and B.
If [ma,na] = size(A), [mb,nb] = size(B), and [mc,nc] = size(C), then
mc = max([ma+mb-1,ma,mb]) and nc = max([na+nb-1,na,nb]).

C = conv2(H1, H2, A) first convolves each column of A with the vector
H1 and then convolves each row of the result with the vector H2. If
n1 = length(H1), n2 = length(H2), and [mc,nc] = size(C) then
mc = max([ma+n1-1,ma,n1]) and nc = max([na+n2-1,na,n2]).
conv2(H1, H2, A) is equivalent to conv2(H1(:)*H2(:).', A) up to
round-off.

C = conv2(..., SHAPE) returns a subsection of the 2-D
convolution with size specified by SHAPE:
'full' - (default) returns the full 2-D convolution,
'same' - returns the central part of the convolution
         that is the same size as A
```

Enjoy!