




## 📘 How to Use this Tool:


### First:


**Read all sections in [Topics Menu](#):**

In  [Big Picture](#) you can see a list of almost all subjects in Computer Vision by Machine Learning and Deep Learning.

In  [University Curriculum](#) you can find all subjects of CV by ML and DL base on Bachelor, Master and PhD degrees.

In  [Road Map](#) you can see a list of subjects suggested for learning CV by ML and DL for individual Researchers.

 [Study Plan](#) is a 12 weeks Intensive course suggested for learning CV by ML and DL for Short-term employee training courses.

 [Heading Research](#) Displays Where State-of-the-Art Research Is Heading as Modern CV research is rapidly evolving.

### Second:

**Select a path from the top. You can find all including:**

**Explanations, Examples and Coding for each subject in [Lab Menu](#).**

### Third:

**For Coding and Establishing the Lab environment,**

**create essential folders and import necessary files from [Settings Menu](#).**

### Attention:

When establishing the lab for installing required versions of languages, libraries and packages for a subject you should install: Latest stable versions not pre-release and beta versions, however some libraries not configured in the latest versions. So, based on the context in each subject look on the internet to check your latest python version is compatible with required libraries Below suggestions are for Windows Environment, you can find how to do these for other operation systems like: Linux and MacOS by searching the title of that suggestion on the internet.

**Suggestion:**

Use Python Virtual Environment for each Subject and configure one environment for compatible libraries|Versions as below:

1. Create a Folder and open your IDE (Integrated Development Environment) and Terminal (CMD or Shell) inside that folder.
2. Create a Virtual Environment:
  - In Terminal type: `python -m venv NameOfVirtualEnvironment`  
# NameOfVirtualEnvironment can be name of the subject for finding it easier later and navigating between them
3. Then Activate that Virtual Environment:
  - In Terminal type: `.\NameOfVirtualEnvironment\Scripts\activate`  
# NameOfVirtualEnvironment can be name of the subject for finding it easier later and navigating between them
4. Now you can Install all compatible libraries for that subject on this Virtual Environment:
  - In Terminal type: `pip install package_name`
5. When you are finished working in the virtual environment, you can deactivate it using the deactivate command:
  - In Terminal type: `deactivate`

When you need different python versions for compatibility with libraries in a Subject:

Install different python version on your system then:

- Call executable file of that new version by its path in the Terminal + rest of the command
- Rename their executable file to different names, for example: Python312, Python313, etc.  
Put path of new installed python versions with renamed executable files to the Environment Variables of Operation System.  
Now you can call that python version by its new name directly in your Terminal.