In the next lesson we will be using a type of deep neural network that is Convolutional Neural Networks. You need to install **the Keras library for the next lesson**

Submission Format: Please Submit one **ZIP FILE** that contains:

* **\*.py** files with necessary code and
* **\*.docx** file with IDs and students names, results and explanations.

The name of the ZIP FILE should be: lab<#>\_<IDnumber1>\_<IDnumber2>, where # is the lab number.

**Lab 8: Image processing**

**Tasks to do**

1. Open the files Lab\_8\_0\_SVM.py.
2. Load the Digits dataset *digits = datasets.load\_digits()* The dataset of 1797 gray-level images of size 8X8 pixels.
3. Choose a half of the images as a **Training Set** and rest of the images as a **Testing Set**.
4. Construct a support vector classifier on the Training Set.
5. Predict the value of the digit on the Testing Set.
6. Open the files Lab\_8\_1.py.
7. Take the image sad\_cat.jpg
8. Take the file titles.jpg, convert it to grayscale and make a negative of the picture (instead of dark text on a white background, we obtain light text on a black background).
9. Crop **automatically** one of the titles (in English or in Hebrew), and replace the title in Russian in the sad\_cat.jpg image with the title in other language as shown on the image bellow.