

Homework (deadline: 03/02/2020)

We want to use a neural network to classify pictures into “happy person” and “sad person”.

- Create a data of happy faces and sad faces (say, 10 of each). Each picture should be of size 100x100, in grayscale. See the webpage <https://machinelearningmastery.com/how-to-load-and-manipulate-images-for-deep-learning-in-python-with-pil-pillow/> for a tutorial on image manipulation in python. You will find an example at <https://math.unice.fr/~rubentha/cours.html>. In this example, I take a picture and transform it into a 100x100 greyscale picture.
- Build a python program which can classify pictures using a neural network. You will train this network with your database and check that it works correctly on one of these two pictures: <https://math.unice.fr/~rubentha/enseignement/ml-19-20-thumb-happy-professor-01.jpg>, <https://math.unice.fr/~rubentha/enseignement/ml-19-20-thumb-sad-professor-01.jpg>.
- Write a report explaining your approach and including the code you produced. The report has to be in pdf and sent by e-mail on the deadline (or before). You can work with other students but you have to give me one report per student.