

Computing Methods for Experimental Physics and Data Analysis

Data Analysis in Medical Physics

Lecture 11: Hands-on Session on Training ML and DL classifiers on medical images

Alessandra Retico

alessandra.retico@pi.infn.it

INFN - Pisa

Today's objective is...

- To practice with Convolutional Neural Networks (CNN) to classify images
- To practice with Convolutional Auto-Encoders (CAE) to segment images

Follow and modify the code in https://github.com/retico/cmepda_medphys

- [Lecture11_CNN_pythonized.ipynb](#) *developed by F. Laruina*
- [Lecture11_autoenc.ipynb](#) *developed by F. Laruina*
(... and possibly extend it!)

The dataset used in the examples are:

- DATASET/IMAGES/Mammography_micro
- DATASET/IMAGES/Mammography_masses