

## FDSAI IX

**The  $K$ -means algorithm.** Apply the PCA algorithm for the MNIST dataset (source: <https://yann.lecun.com/exdb/mnist/>). Use as an example the Jupyter notebook lab from *Introduction in Statistical Learning* ([https://github.com/intro-stat-learning/ISLP\\_labs/blob/stable/Ch12-unsup-lab.ipynb](https://github.com/intro-stat-learning/ISLP_labs/blob/stable/Ch12-unsup-lab.ipynb)).<sup>1</sup>

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<sup>1</sup>Without *Matrix completion* and *Hierarchical clustering*.