Computational anatomy: from MRI to clinical morphological metrics

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Timetable

Monday 10 June:

- Introduction to Python and deep learning

Tuesday 11 June:

- Case study using deep learning
  - Automatic segmentation of clinical images
  - Diagnosis and prognosis of cardiac disease

Wednesday 12 June and Thursday 13 June:

- Build a statistical shape models
- Interpretation of PCA space and it’s use for diagnosis

Material

Code and data for the summer school workshop.

https://github.com/ericspod/VPHSummerSchool2019

Visualization of the notebooks:

https://nbviewer.jupyter.org/format/slides/github/ericspod/VPHSummerSchool2019/

Anaconda

Open source, package and environment management system for **Python**

It ships with:

- Spyder IDE
- Jupyter Notebooks

Preinstalled packages

- Numpy
- Scipy
- Scikit-learn
- Matplotlib

Installing Miniconda

Before the workshop:

1. Go to https://docs.conda.io/en/latest/miniconda.html and download the Python 3.7 64bit installer for your OS.
2. Install Miniconda with check the box “add to the PATH”
3. In the Start Menu, go to "Anaconda3" -> "Anaconda Prompt“
4. Type **conda install jupyter pytorch matplotlib scikit-learn** to install the components needed.

5. To start Jupyter, from this console type **jupyter notebook**