When working with code, good practices are also needed. In particular the publication of code is needed in order to understand, reuse and repeat the operation.

**TIPS AND TRICKS FOR A BETTER EFFICIENCY IN CODE MANAGEMENT**

**VERSIONING**

Versioning systems are powerful tools for code management. The most used is **Git**, it’s free and open:

- It allows to **track changes** and to undo changes if needed. You can manage easily different versions of your code
- Connected to a repository your code and its modifications are **automatically backed up**
- You can also **work in team** easily on the same code

**SHARING**

In order to **share your code and make it visible**, repositories provide various services like version management system, wikis, task management and issues tracking, one of the most known is **Github**.

EPFL provides **c4science.ch** for code versionning. Data are stored in Switzerland.

EPFL provides also **gitlab.epfl.ch** (open-source github) but backup is not guaranteed.

**DESCRIBING**

**README documentation** is a really important part of coding. It allows you to **explain your code**, for you and others. You should add rich metadata and documentation (README, LICENSE, comments on code...) on any publication of the code.

Some tools like **Sphinx** and **Doxygen** can help you by going through your code and generating a preformatted documentation.

**LICENSING**

It is important to explain **how your code can be used** by others (and related restrictions).

You have at least three options:

- Open source licenses (permissive as MIT or GPL)
- Academic licenses (restrict commercial usage)
- Commercial licenses (reserve commercial usage)

**PUBLISHING**

Don’t forget to **generate a DOI** to uniquely identify a version of your software and to easily cite it.

Most code repository (like **Zenodo** or **c4science**) generate a DOI from your deposit.

**TIP**: Github provides an integration with **Zenodo**.

**PRESERVING**

Preservation is important for keeping your work secure and also for scientific validation.

C4science is a solution to **preserve your code** for the long term. If you are using another code repository, you should make a copy on **c4science** for preservation.

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