

LPP dev guide

Efficient scientific coding

You will find here material to help you get started with your coding. Depending on whether you mostly do data analysis or numerical modeling, you'll need slightly different tools and methods. The advice we give you will help to be efficient, rigorous and to write code that you'll be able to use, maintain and share in the long run. Now remember, **If you're a PhD or a post-doc**, following these advice will not only help you improving the quality and reproducibility of your science, but also will make all your coding efforts **reusable** for your future you and by people in the lab once you're gone. More importantly, it will give you the basic knowledge you need to legitimately claim for a data science / computing science position in the private sector.

- [The commandments of programming](#)
- [Common tools and methodology](#) you'll need to get started.

Now, what are **you** doing?

- I'm mostly coding for [data analysis](#)
- I'm mostly coding for [numerical modeling](#)

Code review and analysis

Review

[Code Review for Teams Too Busy to Review Code](#) (youtube video)
[Nice tutorial on code review with Rhodocode](#)

Analysis

[CPP Check](#)

Performance

Videos

[Modern C++](#)

Optimizations

[Instruction tables](#)

Setting up a clean Python environment

- [Python and virtualenv](#)

C++ development

- [The C++ language](#)
- [Design Pattern](#) in general and in C++
- [C++ Gurus](#)
- [patterns in C++](#)

Courses

These are useful links to check out regularly

PRACE training: <https://events.prace-ri.eu/category/2/>

Catalogue of courses: <http://formation-calcul.fr/>

Formation IDRIS: https://cours.idris.fr/php-plan/affiche_planning.php?total

Code Design and Architecture

- [The S.O.L.I.D. principles](#)

Writing code

- [Code review](#)
- [Useful resources](#)

Documentation

- [\[\[hyb-par: Documentationtools| Documentation Tools\]\]](#)

Dev DeJ games

- 1 - show me your snippet
- 2 - explique à ton voisin
- 3 - montre nous ton blog préféré
- 4 - pull me quizz
- 5 - sell me (some features of) your editor
- 6 - critic my code
- 7 - show me a youtube video
- 8 - optimize my snippet
- 9 - translate my code
- 10 - Ze lib of Ze Week