23 – 24 May 2024

PUNCH Young Academy: Training about software development

→ aimed at Ph.D. students, postdocs and senior scientists

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Abstract

In this training you will learn many principles about *Clean Code* as well as how to use `Git` in a professional way. The two topics will be explored in a thrilling alternation of explanation, discussion and practical sessions.

Have you ever stared at your screen reading the same snippet of code over and over again? Are questions like – *What is this line meant to do? What did the author mean here? Wait, the comment is saying the opposite to what the code does, why?* – familiar to you? Then make sure you attend, **it will be a turning point for you!** In computer programming there are rules, which are completely independent from the programming language used. In this pedagogical and exciting training, simple general principles will be explored in order to let you easily improve your daily code quality. Using many examples, the idea of *Clean Code* will be introduced, several aspects discussed and you will immediately apply what learnt. Although impossible to be thoroughly covered in this training, some highlights about clean testing will also be given.

For any software project, no matter whether alone or in a team, the use of a versioning control system is basically unavoidable. World-wide, `Git` is likely to be the most used one. Still, in the scientific landscape where most of the work would heavily profit from its usage, many people refrain from including it in their daily routine. Learning `Git` is clearly advantageous and the payoff in the medium- and long-term is enormous, while the overhead to learn using it is moderate to small.

After this training, which is offered without requiring any knowledge prerequisite and in the spirit of life-long-learning, you will not only be able to use `Git` in your team (and in general in all your projects) in an excellent way, but also write code from a totally new perspective. So, what are your waiting for? Book your place!

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Format, participants requirements and timetable

The training will last for two days, fully online. Being offered virtually, more breaks have been included in the program, in order to allow participants to be always productive.

Participation is subject to approval by organisers and a first come, first served policy applies. In case of large request, a waiting list will be established and organisers will consider to enlarge the participants number.

There is no knowledge prerequisite, but every participant is supposed to be sure to fulfil the following requirements.

1. **Have a working camera which should be switched on** during the training.
2. **Choose a piece of own software and have it ready**. This has to be in a language known to the participant and, ideally, it is either a small own program or a part extracted from a larger project. As rule of thumb, such a small program should be few hundreds lines of code long, but not longer of ~1000 lines.
3. **Have a computing environment ready to be used**. This might be the own device from which the zoom lecture is attended or a remote one (for instance the own university computer e.g. reached over `ssh`). In particular, every participant should be able to **edit, possibly compile and run the own chosen piece of software**.
4. **Have `Git` installed in your computing environment**. It is likely that `Git` is already installed on your operating system. In order to check it, try to type `git version` in your terminal and see if the command is recognised. In the unlikely case `Git` is not installed, you can follow this nice guide 🌍 in order to install it.

	Day 1
09:00 - 09:15	Welcome and introduction
09:15 - 10:10	`Git` from zero
10:10 - 10:20	🚶‍♀️🚶 Break ☕
10:20 - 11:20	Clean Code – Part 1
11:20 - 11:30	🚶‍♀️🚶 Break ☕
11:30 - 12:15	Exercise session 1
12:15 - 13:30	🍝 Lunch break 🍕
13:30 - 14:45	Let's `Git` together!
14:45 - 14:55	🚶‍♀️🚶 Break ☕
14:55 - 15:40	Exercise session 2
15:40 - 15:50	🚶‍♀️🚶 Break ☕
15:50 - 16:50	Solutions and discussion
16:50 - 17:00	Closing day 1

	Day 2
09:00 - 09:50	Clean Code – Part 2
09:50 - 10:00	🚶‍♀️🚶 Break ☕
10:00 - 10:15	Clean testing – Highlights
10:15 - 11:15	Exercise session 3
11:15 - 11:25	🚶‍♀️🚶 Break ☕
11:25 - 12:15	`Git` in real life – Part 1
12:15 - 13:30	🍝 Lunch break 🍕
13:30 - 14:30	`Git` in real life – Part 2
14:30 - 14:40	🚶‍♀️🚶 Break ☕
14:40 - 15:40	Exercise session 4
15:40 - 15:50	🚶‍♀️🚶 Break ☕
15:50 - 16:45	Solutions and discussion
16:45 - 17:00	Closing session