

Lessons from the first open access and 100% reproducible PhD thesis

Miguel Xochicale

February 3, 2020

Surprisingly, last July 2019, no one to my knowledge have ever published an open access and reproducible thesis since the establishment of University of Birmingham in 1900. That said, in this post I will share my journey for such PhD thesis that along with the limitations of time and funding, I also faced some other challenges, for instance, being a minority and non-native English speaker. Those were the variables that accompanied me in this journey but always with main one of making the science that I always dreamed of, the science which is reproducibility and open accessible to anyone anywhere.

So, I started the four-year journey of my PhD on November 2014 by, firstly, struggling to put together sentences in a language different from my mother tongue, then using new programming languages along with many open access software and tools such as Ubuntu, GitHub, python, julia, R, octave, etc. Then for the second year, I joined twitter in May 2015, and I was so thrilled to start following Olivia Guest (https://twitter.com/o_guest) her Github contributions, then I found the repositories of Severin Lemaignan, a robotics who is considering himself an open-source enthusiast (<https://github.com/severin-lemaignan>), then decided to use R because of the advances of reading huge datasets than python. Also that year I met the Jon Tennant (<https://twitter.com/protohedgehog>) who was an open-eye by reading his twitter post and resonating with like-minded people. Then the third year of my PhD was mainly about refining experiments, collecting and its analysis data and also making it open accessible and reproducible and start thinking seriously of writing up my thesis. The fourth year then came along with the challenge of putting together a thesis where I discovered the repo of starry by Rodrigo Luger (<https://github.com/rodluger/starry>) and the beautiful embedded links to the python code and various Github websites of the repos of the NVIDIA toronto AI lab (<https://github.com/nv-tlabs/meta-sim>).

Then to close this post, I am wondering where is the future of open access and reproducible science, I guess a closer future is in something called actions that can be used in azure, gitlab or github which allow you to do continuous development and continuous integration. With that in mind, my hope is that others also try to have a go to open access software and make science better by making it open accessible and %100 reproducible (Xochicale, 2019).

References

Xochicale, M. (2019). *Github repository for PhD thesis*. <https://github.com/mxochicale-phd/thesis/>.