

I will try to summarize the general approaches that were raised in the showcase and the discussion.

We heard about “data” focused tools which involve ways to handle, store and share data from Ben Dichter (Ripple), Shan Shen (BrainCogs), Yaki Stern (MoC3) and Alisa Surkis (OXT). On the other hand, we heard about “analysis” -focused tools which involve analysis software development and platforms from Michael Dickenson (Flyloops), Betash Babadi (Sensation) and Ariel Rokem (Learning2Learn). It is obvious that the data focused groups are also using software tools as pipelines, while the analysis software focused groups need to store their data in a suitable way, but the main focus of the lab leads to the tools that are chosen and developed.

As part of the showcase and the discussion, several issues were covered:

1. The usability of the tools: For data handling it is related to the access to the data using GUIs, flexibility of the database modeling and easy and secure sharing. For the analysis software it is related to version control software and cloud based platforms.
2. On-premise vs cloud: The question of maintaining on premise hardware vs using cloud in terms of cost, accessibility, flexibility and computing power is still open but it seems that the groups that are working on analysis software tend to use cloud as their platforms, where groups that are more experimental and therefore have more emphasis on the data storage tend to use on premise systems (In my opinion the reason is related to the charging model of the cloud companies. The upload and storage are not expensive and the computation relatively cheap but the download is expensive).
3. The need for clear formats and documentation of data for sharing (between lab in the project and for external collaboration)
4. The need for tools and methods that will increase the software stability, usability and accessibility (documentation, training, easy to use platforms, hackathons etc.)
5. Adapting tools and formats that were generated in other fields, for example PanNeuro building on the approach of Pangeo (Learning2learn) from Geosciences to fit neuroscience needs.

I think that this forum is a great platform for knowledge exchange as we share common concerns regarding the ways to implement efficient practices in our research workflows and collaborations. The next step is to plan for what the group should accomplish during the virtual BRAIN Investigators Meeting planned for Jun 1-3.

Thanks for all of you for the insightful presentations and good discussions.

Yaki and Raj