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Type: **Poster**

Open research software infrastructure in Neuro-Medicine

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The Institute of Neuroscience and Medicine: Brain and Behavior (INM-7) at the research center Jülich combines clinical science with open source software development in different areas: Individual groups independently develop open software tools for data and reproducibility management (DataLad; <https://datalad.org>; Halchenko et al. 2021), mobile health applications (JTrack; <https://jtrack.readthedocs.io>; Sahandi Far et al., 2021), and machine-learning libraries (JuLearn; <https://juaml.github.io/julearn>; Hamdan et al., 2024). In a collaborative platform for digital medicine in North-Rhine-Westphalia, we now connect the distinct software tools with the aim to establish an integrated, user-friendly, and FAIR infrastructure for digital biomarker collection, storage, and exchange for clinical scientists. In this contribution, I want to map out the different challenges and opportunities in plugging together open research infrastructure from several unrelated but open source software components. In addition, beyond an overview of our tools and projects, I also aim to spark discussions around synergies and interoperability with related software projects in medical contexts.

Halchenko, Yaroslav, et al. "DataLad: distributed system for joint management of code, data, and their relationship." *Journal of Open Source Software* 6.63 (2021).

JTrack: A Digital Biomarker Platform for Remote Monitoring of Daily-Life Behaviour in Health and Disease. Sahandi Far M, Stolz M, Fischer JM, Eickhoff SB, Dukart J.

Front Public Health. 2021 Nov 19;9:763621. doi: 10.3389/fpubh.2021.763621. eCollection 2021.

Hamdan, Sami, et al. "Julearn: an easy-to-use library for leakage-free evaluation and inspection of ML models." *Gigabyte* 2024 (2024).

I want to participate in the youngRSE prize

no

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Session Classification: Poster and Demo Session together with Reception

Track Classification: Data and Software Management: research data management