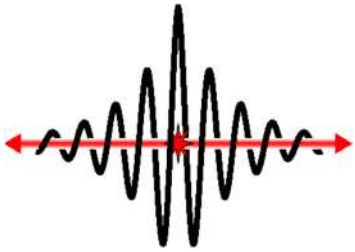

Collaborative Computational Platform in Synergistic PET-MR Reconstruction

Synergistic Image Reconstruction Framework Survey 2018

https://www.ccppetmr.ac.uk/user_survey

Positron Emission Tomography (PET) and Magnetic Resonance (MR) are two powerful tools for medical diagnostics. Now that we have scanners that can do PET and MR simultaneously, new ideas are needed on how to use PET and MR in a synergistic way, i.e. how to use PET data for improving the quality of MR image reconstruction and vice versa.

CCP PET-MR, a UK EPSRC-funded consortium started in April 2015, aims at providing the PET-MR academic and industrial community with new **open source software framework** for trying out their ideas. These tools are designed to be **simple enough in use for research and teaching purposes** and, at the same time, **powerful enough to handle real scanner data** efficiently. The immediate impact of our software will be the reduction of the "barrier for entry" for new contributors to PET-MR imaging research and development, and the dramatic reduction in time a researcher would spend on the coding - from months to days. Therefore, our primary **target audience consists of researchers in image reconstruction for PET-MR**, researchers in image reconstruction for other (multi)modality systems and researchers in all other aspects of PET-MR data processing.

Our framework is based on existing open source software projects, currently STIR and Gadgetron. Our approach is not to expose complete functionality but rather to provide a subset according to our needs, while keeping our layer relatively thin. The functionality of the software is provided for access from both a Python and MATLAB interface, with an underlying C++ library.

We have released version 1.1.1 of our Synergistic Image Reconstruction Framework (SIRF) in May 2018 with version 2.0 planned this year. The main target OS for our software framework is Ubuntu LTS, with distribution via source code, a virtual machine, and docker. MacOS and Windows versions can be built via source code and instructions. We plan to provide precompiled libraries. We are also investigating the availability of a cloud-setup where people can log-in and run the Python version on standard data.

However, targeting and supporting many OS, systems and distribution platforms is expensive and prevents us to add new functionality so we need to prioritise. We therefore are conducting a survey to have a better understanding of the requirements of our user base.

Please complete the survey by 14 October 2018

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You can find more information on CCP PETMR and our software on our website, in particular on the software framework page, but also on GitHub.