Supplementary material

Web page http://www.3dbar.org/wiki/barPosSupp contains the most recent versions of the supplementary materials for the article:

(...)

ABSTRACT

In this article we propose the Possum volumetric reconstruction framework which provides a selection of 2D to 3D image reconstruction routines allowing one to build 2D to 3D reconstruction workflows tailored to one's specific requirements.

The main building blocks include reconstruction with or without using external reference and solutions for typical issues encountered during the reconstruction process, such as propagation of the reconstruction errors due to distorted sections. We validate the implementation using synthetic datasets and actual experimental imaging data derived from publicly available resources. We also evaluate efficiency of a subset of the algorithms implemented.

The Possum volumetric reconstruction framework is distributed under MIT open license and it provides researchers with a possibility of building 2D to 3D reconstruction workflows from existing components, without the need for low-level implementation. As a consequence, it also facilitates sharing and data exchange between researchers and laboratories.

The following supplementary materials are available:

1. GitHub repository with the current:
    1. Release branch: https://github.com/pmajka/poSSum/tree/release
    2. Develop branch: https://github.com/pmajka/poSSum/tree/develop

   Including installation instruction test and usage examples.

2. Screencast Showing how to install the framework on a fresh Ubuntu Linux system.

3. Virtual Box Virtual Appliance (2GB) containing reinstalled Xubuntu 12.04 Linux and ready to use PoSSum Reconstruction Framework installation. See the readme file for information how to deploy and use the virtual machine.

4. Complete set of calculations of the 3D reconstruction of the Waxholm Space Mouse Brain Reference based on 312 images of sections stained with the Nissl method (Johnson et. al. 2010) described in the article.