

ER-flow Application Description Template

Application Name: DTI Population Registration
Application domain: Medical Imaging
Brief description of application DTI Population Registration determines spatial correspondence in DTI datasets of all subjects in a certain population. A population contains a group of patients (e.g. depression, schizophrenia, Amyotrophic Lateral Sclerosis, etc.) and control subjects. Typically 50 subjects are included, but larger populations are expected with the growth of study sizes. In this application the “mean” of all subjects serves as template, towards which all subjects are aligned (registered). This template is iteratively updated until convergence (6 times is optimal).
Data input data format: .tgz files generated by the DTI Preprocessing application. output data format: NIFTI sample data: lfn:/grid/vlmed/AMC-e-BioScience/medical-imaging/dti-popreg/sample-data/dtipopreg-input.zip application and documentation http://shiwa-repo.cpc.wmin.ac.uk/shiwa-repo/public/edit-application.xhtml?appid=5145 publication n.a.
Execution environment DCI: (EGI, SRM/LFC, vlmed VO) middleware: gLite, CVMFS workflow system: MOTEUR, WS-PGRADE
Execution characteristics data size (per unit, typical number of units): input: 100 MB temporary: output: 10 MB processing time (per unit): 6 hours memory usage: n.a. disk usage: 100 MB
Target users Neuroscientists, radiologists, psychiatrists of the AMC Brain Imaging Center http://www.lebic-amc.nl number of users: 10+ user type: end-user
Usage scenario for workflow in the ER-FLOW Various workflows have been implemented to port this application to EGI for the vlmed VO. These workflows are published on the SHIWA repository with appropriate documentation and metadata. Users start DTI Population Atlas from the AMC science gateways.
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