Insight Segmentation and Registration Toolkit

RRID:SCR_001149
Type: Tool

Proper Citation

Insight Segmentation and Registration Toolkit (RRID:SCR_001149)

Resource Information

URL: http://www.itk.org

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Description: Open-source software toolkit for performing registration and segmentation in 2, 3, and more dimensions. This extensive suite of software tools for image analysis, developed through extreme programming methodologies, employs leading-edge algorithms for registering and segmenting multidimensional data. ITK is implemented in C++. ITK is cross-platform, using the CMake build environment to manage the compilation process. In addition, an automated wrapping process generates interfaces between C++ and interpreted programming languages such as Tcl, Java, and Python (using CableSwig). This enables developers to create software using a variety of programming languages. ITK's C++ implementation style is referred to as generic programming (i.e., using templated code). Such C++ templating means that the code is highly efficient, and that many software problems are discovered at compile-time, rather than at run-time during program execution. Because ITK is an open-source project, developers from around the world can use, debug, maintain, and extend the software. ITK uses a model of software development referred to as extreme programming. Extreme programming collapses the usual software creation methodology into a simultaneous and iterative process of design-implement-test-release. The key features of extreme programming are communication and testing. Communication among the members of the ITK community is what helps manage the rapid evolution of the software. Testing is what keeps the software stable. In ITK, an extensive testing process (using Dart) is in place that measures the quality on a daily basis. The ITK Testing Dashboard is posted continuously reflecting the quality of the software.

Resource Type: Resource, software resource, image analysis software, software toolkit, data processing software, software application
References: PMID:22878830

Keywords: registration, segmentation, multidimension, image processing, reusable library, analyze, bshort/bfloat, c++, console (text based), dicom, java, minc2, nifti, nrrd, os independent, philips par/rec, python, tcl/tk

Funding Agency: NCRR, NIBIB

Related resources: Vaa3D, elastix, vmtk in 3DSlicer, NA-MIC Kit

Availability: Open-source license, (OSI-approved license), ITK 4.0, Apache License, v2. For versions prior and including 3.20, New BSD License, And, Simplified BSD License, Before 3.6, A variation of the, BSD License, Is used, The community can contribute to this resource

Website Status: Last checked down

Abbreviations: ITK

Resource Name: Insight Segmentation and Registration Toolkit

Resource ID: SCR_001149

Alternate IDs: nif-0000-00319

Alternate URLs: http://www.nitrc.org/projects/insighttoolkit

Ratings and Alerts

- 4.5 / 5 (2 votes) Rated at NITRC http://www.nitrc.org/projects/insighttoolkit

No alerts have been found for Insight Segmentation and Registration Toolkit.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 79 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch Infrastructure.


