Resource Summary Report

Generated by kravitz2 on Sep 5, 2026

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

Proper Citation: Insight Segmentation and Registration Toolkit (RRID:SCR_001149)

Description: Open source, cross platform library that provides developers with extensive suite of software tools for image analysis. Developed through extreme programming methodologies, ITK builds on proven, spatially oriented architecture for processing, segmentation, and registration of scientific images in two, three, or more dimensions.

Abbreviations: ITK

Synonyms: Insight Toolkit, National Library of Medicine Insight Segmentation and Registration Toolkit (ITK), Insight Segmentation and Registration Toolkit

Resource Type: data or information resource, portal, software resource, topical portal

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: NIBIB EB006733;
NIBIB EB008374;
NIBIB EB009634;
NCRR P41RR013218

Availability: Free, Available for download, Freely available

Resource Name: Insight Segmentation and Registration Toolkit

Resource ID: SCR_001149

Alternate IDs: nif-0000-00319

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

Record Creation Time: 20220129T080205+0000

Record Last Update: 20260903T234417+0000

Ratings and Alerts

No rating or validation information has been found for Insight Segmentation and Registration Toolkit.

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

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 84 mentions in open access literature.

Listed below are recent publications. The full list is available at kravitz2 .

David MA, et al. (2026) Demystifying machine learning approaches in digital bone imaging using microCT and HRpQCT. Bone reports, 29, 101911.

Velazquez-Rivera E, et al. (2025) Specific targeting of brain endothelial cells using enhancer AAV vectors. Neuron, 113(10), 1562.

Ruckli AC, et al. (2022) Automated quantification of cartilage quality for hip treatment decision support. International journal of computer assisted radiology and surgery, 17(11), 2011.

F??rst D, et al. (2020) Layer-specific analysis of femorotibial cartilage t2 relaxation time based on registration of segmented double echo steady state (dess) to multi-echo-spin-echo (mese) images. Magma (New York, N.Y.), 33(6), 819.

Wang Q, et al. (2020) The Allen Mouse Brain Common Coordinate Framework: A 3D Reference Atlas. Cell, 181(4), 936.

Alexander B, et al. (2020) White matter extension of the Melbourne Children's Regional Infant Brain atlas: M-CRIB-WM. Human brain mapping, 41(9), 2317.

Ferrero V, et al. (2018) Online proton therapy monitoring: clinical test of a Silicon-photodetector-based in-beam PET. Scientific reports, 8(1), 4100.

Voglreiter P, et al. (2018) RFA Guardian: Comprehensive Simulation of Radiofrequency Ablation Treatment of Liver Tumors. Scientific reports, 8(1), 787.

Granados A, et al. (2018) Automatic segmentation of stereoelectroencephalography (SEEG) electrodes post-implantation considering bending. International journal of computer assisted radiology and surgery, 13(6), 935.

Majka P, et al. (2018) A three-dimensional stereotaxic atlas of the gray short-tailed opossum (Monodelphis domestica) brain. Brain structure & function, 223(4), 1779.

Fanti Z, et al. (2018) Improved Surface-Based Registration of CT and Intraoperative 3D Ultrasound of Bones. Journal of healthcare engineering, 2018, 2365178.

Haefner MF, et al. (2018) 3D-Printed masks as a new approach for immobilization in radiotherapy - a study of positioning accuracy. Oncotarget, 9(5), 6490.

Monti S, et al. (2017) An Evaluation of the Benefits of Simultaneous Acquisition on PET/MR Coregistration in Head/Neck Imaging. Journal of healthcare engineering, 2017, 2634389.

Sass LR, et al. (2017) A 3D subject-specific model of the spinal subarachnoid space with anatomically realistic ventral and dorsal spinal cord nerve rootlets. Fluids and barriers of the CNS, 14(1), 36.

Connolly A, et al. (2017) Highly trabeculated structure of the human endocardium underlies asymmetrical response to low-energy monophasic shocks. Chaos (Woodbury, N.Y.), 27(9), 093913.

Yu S, et al. (2017) Efficient Segmentation of a Breast in B-Mode Ultrasound Tomography Using Three-Dimensional GrabCut (GC3D). Sensors (Basel, Switzerland), 17(8).

Broggi S, et al. (2017) A Comparative Evaluation of 3 Different Free-Form Deformable Image Registration and Contour Propagation Methods for Head and Neck MRI: The Case of Parotid Changes During Radiotherapy. Technology in cancer research & treatment, 16(3), 373.

Khanal B, et al. (2017) Simulating Longitudinal Brain MRIs with Known Volume Changes and Realistic Variations in Image Intensity. Frontiers in neuroscience, 11, 132.

Patterson AJ, et al. (2016) Quantitative BOLD imaging at 3T: Temporal changes in hepatocellular carcinoma and fibrosis following oxygen challenge. Journal of magnetic resonance imaging : JMRI, 44(3), 739.

Wu W, et al. (2016) Automatic Liver Segmentation on Volumetric CT Images Using Supervoxel-Based Graph Cuts. Computational and mathematical methods in medicine, 2016, 9093721.