**Diffusion Tensor Imaging ToolKit**

**RRID:** SCR_001642  
**Type:** Tool

**Proper Citation**

Diffusion Tensor Imaging ToolKit (RRID:SCR_001642)

**Resource Information**


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**Description:** A spatial normalization and atlas construction toolkit optimized for examining white matter morphometry using DTI data with special care taken to respect the tensorial nature of the data. It implements a state-of-the-art registration algorithm that drives the alignment of white matter (WM) tracts by matching the orientation of the underlying fiber bundle at each voxel. The algorithm has been shown to both improve WM tract alignment and to enhance the power of statistical inference in clinical settings. A 2011 study published in NeuroImage ranks DTI-TK the top-performing tool in its class. Key features include:  
- open standard-based file IO support: NIfTI format for scalar, vector and tensor image volumes  
- tool chains for manipulating tensor image volumes: resampling, smoothing, warping, registration & visualization  
- pipelines for WM morphometry: spatial normalization & atlas construction for population-based studies  
- built-in cluster-computing support: support for open source Sun Grid Engine (SGE)  
- Interoperability with other popular DTI tools: AFNI, Camino, FSL & DTIStudio  
- Interoperability with ITK-SNAP: support multi-modal visualization and segmentation

**Resource Type:** Resource, software resource, image analysis software, software toolkit, data processing software, software application

**Keywords:** dti, visualization, segmentation, resampling, smoothing, warping, registration, spatial normalization, atlas construction, analysis, atlas application, intersubject, image-to-template, analyze, nifti-1, macos, linux

**Parent Organization:** SourceForge, University of Pennsylvania; Philadelphia; Pennsylvania
**Funding Agency:** NIBIB

**Related resources:** Diffusion MRI of Traumatic Brain Injury, Camino, MRI Studio

**Availability:** Available for download

**Website Status:** Last checked up

**Abbreviations:** DTI-TK

**Resource Name:** Diffusion Tensor Imaging ToolKit

**Resource ID:** SCR_001642

**Alternate IDs:** nlx_153914

**Alternate URLs:** http://www.nitrc.org/projects/dtitk

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**Ratings and Alerts**


No alerts have been found for Diffusion Tensor Imaging ToolKit.

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**Data and Source Information**

**Source:** SciCrunch Registry

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**Usage and Citation Metrics**

We found 13 mentions in open access literature.

**Listed below are recent publications.** The full list is available at [FDI Lab - SciCrunch Infrastructure](http://www.nitrc.org/projects/dtitk).


