3DSlicer Pathology and FeatureScape for Linked Radiology/Pathology Image Analysis Competitions

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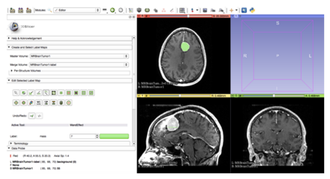
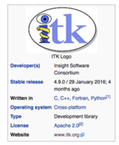
SlicerPathology components and dependencies

OpenCV - computer vision library

ITK - image segmentation and registration toolkit

3D Slicer Editor module





OpenCV integration

3D Slicer extension: *SlicerOpenCV*

Can be accessed by any 3D Slicer module

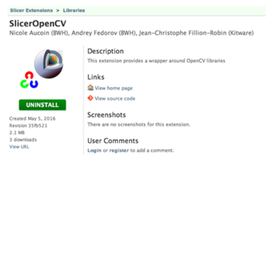
Most OpenCV components that do not require special hardware are included

Object detection, image codecs, video processing, machine learning, camera calibration, ...

Cross-platform packages for all platforms

ITKOpenCVBridge module of ITK is included for OpenCV - ITK interface

SlicerOpenCVExample illustrates usage for developers/adopters of *SlicerOpenCV*

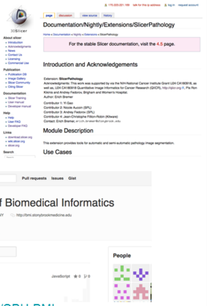


SlicerPathology and 3D Slicer ecosystem

Source code for all extensions is available on github (SBU-BMI organization)

Documentation reference wiki pages are under slicer.org

Nightly builds and packaging on the Slicer dashboard



Community building

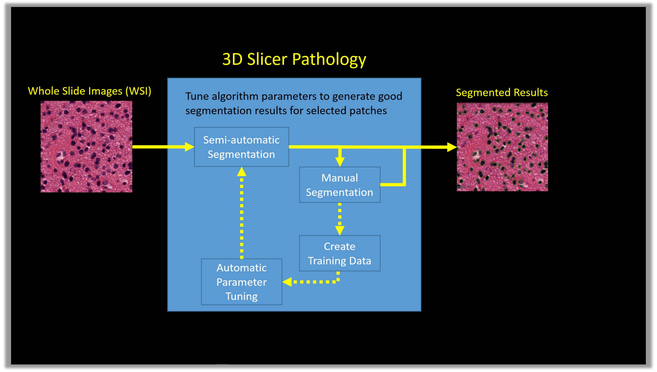
3D Slicer user and developer lists are available to support *SlicerPathology* and *SlicerOpenCV* community

NA-MIC Project week twice a year (Summer and Winter)

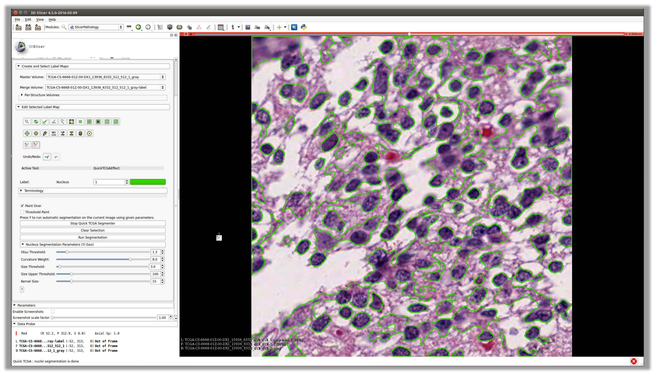
- 10+ years of community engagement
- Winter 2016 event: 77 participants
- MICCAI-endorsed event
- SlicerPathology team participated in the Winter 2016 Project week

Join us for the next project week!

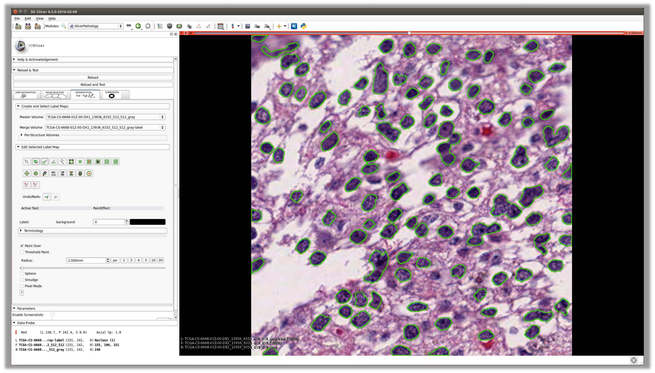
3D SlicerPathology flow diagram for segmentation optimization



3D SlicerPathology used to optimize segmentation parameters

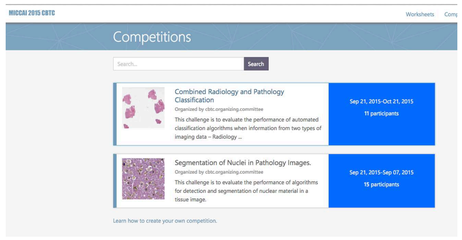


Manual adjustment of segmentation using 3D SlicerPathology

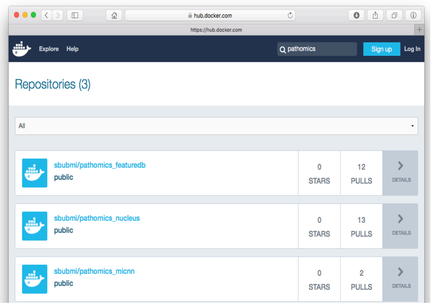


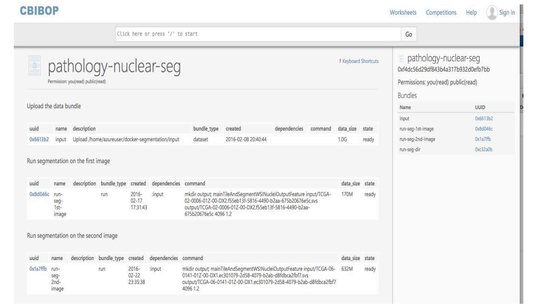
Support for Combined Radiology/Pathology Image Analysis Challenges and Studies

Collaboration between the Saltz and Kalpathy-Cramer labs to organize, in close coordination with the NCI, combined Radiology/Pathology Challenge at MICCAI 2015. Challenge was supported by the could-based infrastructure developed by the Kalpathy-Cramer lab and results comparison tools developed by the Saltz lab.



Docker container for FeatureDB to manage Pathology and Radiology feature sets and Docker container for analysis of pathology images.





Web-based applications driven by FeatureDB for exploration of combined Radiology & Pathology features.