

Changelog ToolIP 2018

Plugins

- fix crash plugin Color::Separate when *m_out_type* is neither *IMAGE_GREY_8* nor *IMAGE_GREY_F*
- fix plugin PCA: two instances of plugin PCA can interfere with each other when running in parallel
- fix plugin ICA: two instances of plugin ICA can interfere with each other when running in parallel
- fix plugin SVD: two instances of plugin SVD can interfere with each other when running in parallel
- fix plugin FFT: different instances of plugins using FFTW library may interfere with each other when running in parallel
- fix plugin matrix::Multiply: non-*GREY_F* image input result in out-of-bounds memory accesses, resulting in either semi-random result, or crash
- fix plugin SVD crash when *height < width*
- fix plugin EVD: NAN handling
- fix plugin ICA, exits ToolIP/MAOIcmd when input is malformed or number of iterations exceeds threshold
- fix plugin PCA: exits ToolIP/MAOIcmd when input is malformed or number of iterations exceeds threshold
- fix plugin StructureTensorEVD3D crash when *size_z == 1*, refine boundary
- fix plugin Calc: couldn't parse double brackets like "exp((2))"
- fix plugin Calc: fix bug involving usage of unary left operators
- fix plugin Calc: fix operators *<* and *!=* with 2d image, and with 3d image when *size_z == 1*
- fix plugin Calc: correct the parsing of string literals, string value does not include surrounding quotes
- fix crash when plugin Display has open window with a value instead of image when a subgraphs runs looped
- plugin Variance: fix large image support for plugin
- plugin ShiftHistVar fix crash when: no 2nd input, 1st and/or 2nd input is not an image
- plugin XYEntropy fix crash when: no 2nd input, 1st and/or 2nd input is not an image
- toolbox Features, plugin Median produces now correct results for *GREY_8* input data images
- fix plugins SaveAscii and Image2String: float values were truncated to six digits. now all significant digits are printed.
- plugin SaveASCII: new parameters *precision* and *base_type* for choosing between fixed point and scientific output.
- plugin Image2String: new parameter *precision*

New plugins

- new plugin DCT, toolbox Transformation
- new toolbox SysUtils, DLL sysutils
- new plugin Console, toolbox SysUtils
- move plugin EnvVar from toolbox Utility to toolbox SysUtils
- new plugin Platform, toolbox SysUtils
- new plugin SaveText, toolbox Generic/IO

Plugin changes

- plugins RayMinimum and RayMaximum: add support for image types *GREY_16*, *GREY_32*, and *MONO_BINARY*
- plugin Variance: add support for image types *GREY_16*, *GREY_32*, and *MONO_BINARY*
- plugin AssertEq with new parameter *ignore_image_type*
- plugin Calc: add new operators \leq , \geq , *lteq()*, and *gteq()*
- plugin Calc: new operator function *pixel()*
- plugin Calc now supports floating point constants in scientific e-notation
- plugin Match: add new second output for translation vector
- plugin Gauss now supports sigma lower one
- plugin RPNC fix parsing of incomplete number tokens
- plugin ColorTransform add 3d image support
- plugin EVD using TNT algorithm: speedup for small matrices
- Box plugin completely reworked by respecting the old behavior.
 - fix line width behavior at the image boundaries
 - fix handling of offsets and of zero lengths
 - make behaviour of parameters *fillBox* versus *line_width* consistent
 - add consistent 3d handling
 - new parameter *box_type*
- several plugins with improved documentation
- plugin Display now supports rotation and flipping of view
- plugin Display now supports free zooming via mouse wheel
- plugin Display now supports very large images
- plugin Display with improved statusbar
- plugin Plot now closable via ESCAPE key

ToolIP

- fix crash when ToolIP is started without environment variable ITWMDIR being set
- add tooltips to subgraphs tabbar to clarify subgraphs path/route
- add shortcut ALT+S + icon for saving top parent graph when in subgraph workspace
- rename document by double-click on TAB title
- support for Inpin visualizers via double-click on inpins
- modify ToolIP log widget to:
 - update in 200ms intervals,
 - defer updates if output grows faster than update interval
 - truncate large output that has been collected while deferring
- parameter dialog execute button for Run/Stop now reflects current running state
- ToolIP Search Widget: live-search while a graph is running is now possible
- single mouse click on plugins red run button stops plugin/subgraph
- crash when dropping unconnected plugin into output port

MAOICmd and RAGBI

- support for loading extended file formats
 - in RAGBI, choose via Add – > Image – > All Files (*.*) – > select
 - file format detection currently via filename suffix
 - images in ASCII text formats like CSV: *.txt, *.csv, *.asc via Utility::ReadAscii
 - 3d images in CINE file format: *.cine via Utility::ReadCine
 - 3d images in Fraunhofer REK format: *.rek, *.rek.gz via MAVIkit::IO::LoadREK (available if MAVIkit is present)
 - 3d images in AVS header file format: *.fld via MAVIkit::IO::LoadAVS (available if MAVIkit is present)
 - 3d images in VolumeGraphics file format: *.vgi, *.vgl via MAVIkit::IO::LoadVGI resp. MAVIkit::IO::LoadVGL (available if MAVIkit is present)
 - 3d images in MRC/CCP4 Cryo-Microscopy/Tomography file format: *.mrc via MAVIkit::IO::LoadMRC (available if MAVIkit is present)
- RAGBI:
 - RAGBI on cancellation, *RAGBI* now properly aborts graph (and looped subgraphs), graph stops as soon as possible
 - proper fileformat fallback for 3d images, and for imagetypes *GREY_F* and *COMPLEX_F*
- MAOICmd:
 - improve verbose mode
 - fix MAOICmd crash when attempting to save empty (null-sized) images
 - re-add image format *RGB8I* supported for result image saving