BioImageOperation script operations

SetPath(Path)
- Set path for relative file paths (by default path of current script file)

CreateImage(Width, Height, ColorMode, Red, Green, Blue)
- Create a new image

OpenImage(Path, Start, Length, Interval)
- Open image file(s) for processing, accepts file name pattern, start/length #

OpenVideo(Path, API, Start, Length, Interval)
- Open video file(s) and process frames, accepts file name pattern, start/length frames or time (ffmpeg formats supported) (API: See OpenCV API codes)

OpenCapture(API, Path, Source, Width, Height, Interval)
- Open capturing from video (IP) path or camera source (#) (API: See OpenCV API codes)

SaveImage(Path, Label, Start, Length)
- Save image to file, start/length frames or time

SaveVideo(Path, Label, Start, Length, Fps, Codec)
- Create video file and save image to video file, start/length frames or time, using fourcc codec string (supports installed encoders)

ShowImage(Label, Display)
- Show image on screen (low priority screen updates) (display: 1 - 4)

StoreImage(Label)
- Store current image in memory

GetImage(Label)
- Get specified stored image from memory

Grayscale(Label)
- Convert image to gray scale

Color(Label)
- Convert image to color

ColorAlpha(Label)
- Convert image to color with alpha channel

GetSaturation(Label)
- Extract saturation from image

GetHsValue(Label)
- Extract (HSV) Value from image

GetHsLightness(Label)
- Extract (HSL) Lightness from image

Scale(Width, Height, Label)
- Scale image

Crop(X, Y, Width, Height, Label)
- Crop image

Mask(Label)
- Perform mask on current image

Threshold(Label, Level)
- Convert image to binary using threshold level, or in case not provided using automatic Otsu method

Difference(Label)
- Perform difference of current image and specified image

DifferenceAbs(Label)
- Perform absolute difference of current image and specified image

Add(Label)
- Adds specified image to current image

Multiply(Factor)
- Perform multiplication of all color channels by specified factor

Invert(Label)
- •Invert image

UpdateBackground(Label, Weight)
- •Add image to the adaptive background buffer

UpdateAverage(Label, Weight)
- •Add image to the average buffer

AddSeries(Label, Maximum)
- •Add image to image series buffer

GetSeriesMedian()
- •Retrieve median image of image series buffer

AddAccum(Label, AccumMode)
- •Add image to the accumulative buffer (AccumMode: Age, Usage)

GetAccum(Power, Palette)
- •Retrieve the accumulative buffer and convert to image (Palette: Grayscale, Heat, Rainbow)

CreateClusters(Tracker, MinArea, MaxArea)
- •Create clusters; auto calibrate using initial images if no parameters specified

CreateTracks(Tracker, MaxMove, MinActive, MaxInactive)
- •Create cluster tracking; auto calibrate using initial images if no parameters specified

CreatePaths(Tracker, Distance)
- •Create common path usage

DrawClusters(Label, Tracker, DrawMode)
- •Draw clusters (DrawMode: Point|Circle|Box|Angle|Label|Labeln|Fill)

DrawTracks(Label, Tracker, DrawMode)
- •Draw tracked clusters (DrawMode: Point|Circle|Box|Angle|Label|Labeln|Track|Tracks)

DrawPaths(Label, Tracker, PathDrawMode, Power, Palette)
- •Draw common paths (PathDrawMode: Age, Usage, Links, LinksMove) (Palette: Grayscale, Heat, Rainbow)

SaveClusters(Path, Tracker, ByLabel)
- •Save clusters to file (CSV format)

SaveTracks(Path, Tracker, ByLabel)
- •Save cluster tracking to file (CSV format)

SavePaths(Path, Tracker)
- •Save paths to file (CSV format)

ShowTrackInfo(Tracker, Display)
- •Show tracking information on screen (Display: 1 - 4)

DrawTrackInfo(Label, Tracker)
- •Draw tracking stats on image

SaveTrackInfo(Path, Tracker)
- •Save tracking information to file (CSV format)

SaveTrackLog(Path, Tracker)
- •Save tracking log to file (CSV format)

DrawLegend(Label, Display, Position)
- •Draw legend (Display: 1 - 4 or Position on image: TopLeft, BottomLeft, TopRight, BottomRight)

Wait(MS)
- •Pause execution for a period (1000 ms default)

Debug()
- •Debug mode

Arguments: Required Optional