API Collection

Histogram

Calculate or manipulate an image's histogram.

Topics

Performing contrast stretching

`func vImageContrastStretch_Planar8(UnsafePointer<vImage_Buffer>, UnsafePointer<vImage_Buffer>, vImage_Flags) -> vImage_Error`

Performs contrast stretching on an 8-bit planar buffer.

`func vImageContrastStretch_PlanarF(UnsafePointer<vImage_Buffer>, UnsafePointer<vImage_Buffer>, UnsafeMutableRawPointer!, UInt32, Pixel_F, Pixel_F, vImage_Flags) -> vImage_Error`

Performs contrast stretching on a 32-bit planar buffer.

`func vImageContrastStretch_ARGB8888(UnsafePointer<vImage_Buffer>, UnsafePointer<vImage_Buffer>, vImage_Flags) -> vImage_Error`

Performs contrast stretching on an 8-bit-per-channel, 4-channel interleaved buffer.

`func vImageContrastStretch_ARGBFFFF(UnsafePointer<vImage_Buffer>, UnsafePointer<vImage_Buffer>, UnsafeMutableRawPointer!, UInt32, Pixel_F, Pixel_F, vImage_Flags) -> vImage_Error`

Performs contrast stretching on a 32-bit-per-channel, 4-channel interleaved buffer.

Performing ends-in contrast stretching

```
func vImageEndsInContrastStretch_Planar8(UnsafePointer<vImage_Buffer>,
UnsafePointer<vImage_Buffer>, UInt32, UInt32, vImage_Flags) -> vImage
_Error
```

Performs ends-in contrast stretching on an 8-bit planar buffer.

```
func vImageEndsInContrastStretch_PlanarF(UnsafePointer<vImage_Buffer>,
UnsafePointer<vImage_Buffer>, UnsafeMutableRawPointer!, UInt32, UInt32,
UInt32, Pixel_F, Pixel_F, vImage_Flags) -> vImage_Error
```

Performs ends-in contrast stretching on a 32-bit planar buffer.

```
func vImageEndsInContrastStretch_ARGB8888(UnsafePointer<vImage_Buffer>,
UnsafePointer<vImage_Buffer>, UnsafePointer<UInt32>, UnsafePointer<
UInt32>, vImage_Flags) -> vImage_Error
```

Performs ends-in contrast stretching on an 8-bit-per-channel, 4-channel interleaved buffer.

```
func vImageEndsInContrastStretch_ARGBFFFF(UnsafePointer<vImage_Buffer>,
UnsafePointer<vImage_Buffer>, UnsafeMutableRawPointer!, UnsafePointer<
UInt32>, UnsafePointer<UInt32>, UInt32, Pixel_F, Pixel_F, vImage_Flags)
-> vImage_Error
```

Performs ends-in contrast stretching on a 32-bit-per-channel, 4-channel interleaved buffer.

Equalizing a histogram

```
func vImageEqualization_Planar8(UnsafePointer<vImage_Buffer>, Unsafe
Pointer<vImage_Buffer>, vImage_Flags) -> vImage_Error
```

Performs histogram equalization on an 8-bit planar buffer.

```
func vImageEqualization_PlanarF(UnsafePointer<vImage_Buffer>, Unsafe
Pointer<vImage_Buffer>, UnsafeMutableRawPointer!, UInt32, Pixel_F,
Pixel_F, vImage_Flags) -> vImage_Error
```

Performs histogram equalization on a 32-bit planar buffer.

```
func vImageEqualization_ARGB8888(UnsafePointer<vImage_Buffer>, Unsafe
Pointer<vImage_Buffer>, vImage_Flags) -> vImage_Error
```

Performs histogram equalization on an 8-bit-per-channel, 4-channel interleaved buffer.

```
func vImageEqualization_ARGBFFFF(UnsafePointer<vImage_Buffer>, Unsafe
Pointer<vImage_Buffer>, UnsafeMutableRawPointer!, UInt32, Pixel_F,
Pixel_F, vImage_Flags) -> vImage_Error
```

Performs histogram equalization on a 32-bit-per-channel, 4-channel interleaved buffer.

Calculating a histogram

```
func vImageHistogramCalculation_Planar8(UnsafePointer<vImage_Buffer>,
UnsafeMutablePointer<vImagePixelCount>, vImage_Flags) -> vImage_Error
```

Calculates the histogram of an 8-bit planar buffer.

```
func vImageHistogramCalculation_PlanarF(UnsafePointer<vImage_Buffer>,
UnsafeMutablePointer<vImagePixelCount>, UInt32, Pixel_F, Pixel_F, v
Image_Flags) -> vImage_Error
```

Calculates the histogram of a 32-bit planar buffer.

```
func vImageHistogramCalculation_ARGB8888(UnsafePointer<vImage_Buffer>,
UnsafeMutablePointer<UnsafeMutablePointer<vImagePixelCount>?>, vImage
_Flags) -> vImage_Error
```

Calculates the histogram of an 8-bit-per-channel, 4-channel interleaved buffer.

```
func vImageHistogramCalculation_ARGBFFFF(UnsafePointer<vImage_Buffer>,
UnsafeMutablePointer<UnsafeMutablePointer<vImagePixelCount>?>, UInt32,
Pixel_F, Pixel_F, vImage_Flags) -> vImage_Error
```

Calculates the histogram of a 32-bit-per-channel, 4-channel interleaved buffer.

Specifying a histogram

```
func vImageHistogramSpecification_Planar8(UnsafePointer<vImage_Buffer>,
UnsafePointer<vImage_Buffer>, UnsafePointer<vImagePixelCount>, vImage
_Flags) -> vImage_Error
```

Specifies the histogram of an 8-bit planar buffer.

```
func vImageHistogramSpecification_PlanarF(UnsafePointer<vImage_Buffer>,
UnsafePointer<vImage_Buffer>, UnsafeMutableRawPointer!, UnsafePointer<v
ImagePixelCount>, UInt32, Pixel_F, Pixel_F, vImage_Flags) -> vImage
_Error
```

Specifies the histogram of a 32-bit planar buffer.

```
func vImageHistogramSpecification_ARGB8888(UnsafePointer<vImage_Buffer
>, UnsafePointer<vImage_Buffer>, UnsafeMutablePointer<UnsafePointer<v
ImagePixelCount>?>, vImage_Flags) -> vImage_Error
```

Specifies the histogram of an 8-bit-per-channel, 4-channel interleaved buffer.

```
func vImageHistogramSpecification_ARGBFFFF(UnsafePointer<vImage_Buffer
>, UnsafePointer<vImage_Buffer>, UnsafeMutableRawPointer!, Unsafe
MutablePointer<UnsafePointer<vImagePixelCount>?>!, UInt32, Pixel_F,
Pixel_F, vImage_Flags) -> vImage_Error
```

Specifes the histogram of a 32-bit-per-channel, 4-channel interleaved buffer.

See Also

Color and Tone Adjustment

{} Adjusting the brightness and contrast of an image

Use a gamma function to apply a linear or exponential curve.

{} Adjusting saturation and applying tone mapping

Convert an RGB image to discrete luminance and chrominance channels, and apply color and contrast treatments.

{} Applying tone curve adjustments to images

Use the vImage library's polynomial transform to apply tone curve adjustments to images.

{} Adjusting the hue of an image

Convert an image to L*a*b* color space and apply hue adjustment.

{} Specifying histograms with vImage

Calculate the histogram of one image, and apply it to a second image.

Enhancing image contrast with histogram manipulation

Enhance and adjust the contrast of an image with histogram equalization and contrast stretching.