PxrStylizedLines

Visualizer

Visualizer

Use these settings to preview certain AOVs to aid in the development of your creative linework.

Beauty

The Beauty AOV being rendered before the Stylized Looks filters are applied

Final Lines

View the output of the lines only.

Final Lines Invert

An inverted visualization of your lines

Final Lines + Beauty

This is the default visualizer and combines your linework with the beauty AOV

Final Lines Alpha

The alpha generated by the lines.

Line Thickness from Pattern

Visualize the thickness of your lines being generated from any patterns or textures plugged into the Line Thickness Input of your PxrStylized Control node.

Line Thickness from Lighting

Visualize the line thickness generated from the scene lighting

Diffuse Luminance

The luminance of the diffuse AOV

Diffuse Energy

The energy emitted by the Diffuse AOV

Z CamDist

Use this selection to visualize your CamDist

Light Signal AOV

The name of a color AOV to do line detection on.

Typically this would be diffuse, but you can also put a light AOV here to determine the transition between photoreal and stylized based on the light emission. This AOV has to be set up in Maya/Katana/Houdini or DisplayFilter will exit.

Diffuse Energy From

Under the hood a white shader approximation is created based off the Signal AOV to drive the Hatching. By default using average of RGB components of Signal AOV, but can also divide Signal AOV lighting results with a pure albedo from NPRalbedo AOV or albedo AOV. If NPRalbedo AOV chosen, must set Albedo Color in Stylized Controller Pattern node.

Light Mask Switch

Use light aov defined in signal_aov_string above as mask for previously daisy-chained Stylized shaders and/or physically based lighting

Line Type

aov - custom AOV defined below
outline - line on alpha of object
sections - line on random id
lineNZ - line on combination of X Y components of surface normal and Z depth, good for unit scale
curvature - line on change in surface normal
camdist - line on change in camera distance

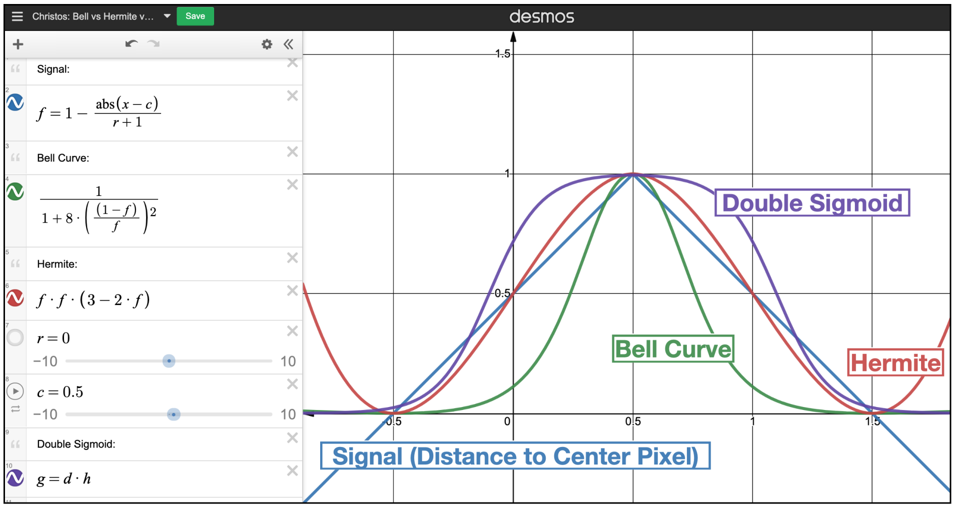
Final Line Gamma

After line detection happens, runs gamma on final lines. When using the Curvature Line Type, you can use this parameter to control the curvature falloff to fine-tune your linework

Weight Type

During line detection weighting to get a variance

Different weight types graph (interactive graph https://www.desmos.com/calculator/q2pkrrwv8h):


Christos: Bell vs Hermite v...
Save
desmos
1.5
1
0.5
-0.5
0
0.5
1
1.5
Double Sigmoid
Bell Curve
Hermite
Signal (Distance to Center Pixel)

Signal:

$f = 1 - \frac{\mathrm{abs}(x-c)}{r+1}$

Bell Curve:

$\frac{1}{1+8\cdot\left(\frac{(1-f)}{f}\right)^2}$

Hermite:

$f\cdot f\cdot(3-2\cdot f)$

$r=0$ −10 10

$c=0.5$ −10 10

Double Sigmoid:

$g = d\cdot h$

Sigmoid Sharpness

See: https://www.desmos.com/calculator/g4jbxcvtqz and modify sharpness variable "a"

Sigmoid Offset

See: https://www.desmos.com/calculator/g4jbxcvtqz and modify offset variable "o"

Activation Function

During line detection weighting to get a variance

Line Thickness

The thickness of the lines, measured in pixels

Dilate Sort Group

Dilate Sort Switch

When turned on: dilates the signals that contributed to the lines (albedo color, thickness, z-depth, ...) to go off the geometry, since the line detection goes off the geometry. If Dilate Sort is off, there will be an undesirable double-line corresponding to the incorrect data off geometry. Also sorts to assign higher priority to objects closer to camera.

Dilate Sort Radius

The size of the radius, in pixels, to dilate the signals.

Dilate Depth Scale

Scale Z depth for sorting based on scene scale

Dilate Sort Weight Type

Same weight types as for Line thickness edge detection, but for Dilate Sort radius

Dilate Sort Use Alpha

If the object has an alpha channel: the zero alpha on camera depth will be incorrect. Instead, switch to ON to mix between camera depth of objet and Dilate_Sort_Max_depth based on alpha

Dilate Sort Max Depth

Max Depth to consider for outside of alpha

Line Thickness Scaling Group

PxrStylizedControl

Multiply Line Thickness by Line Thickness values on PxrStylizedControl per object

PxrStylizedControl Scale

Globally scale line thickness. If you have line thickness set per object and they are all different values, and you up the resolution of the render, use this global scale to increase or decrease line thicnkess of all lines, since they are based on pixel width

Zdepth

Multiply Line Thickness by Z Depth

Cam Dist Z Min

Remap camera distance: Linear step Min on Z (blue channel from lineNZ)

Cam Dist Z Max

Remap camera distance: Linear step Max on Z (blue channel from lineNZ)

Z Min Thickness Scale

At Cam Dist Z Min, scale line thickness by this amount

Z Max Thickness Scale

At Cam Dist Z Max, scale line thickness by this amount

Lighting

Multiply Line Thickness by Lighting signal (view Line Thickness From Lighting in Visualizer dropdown to see this signal)

Light Min Thickness Scale

Scale (multiply) Line Thickness by this value in shadows

Light Max Thickness Scale

Scale (multiply) Line Thickness by this value in light areas

Light Min Max Thick Invert

Invert min max above: so thicker in shadows

Light Thickness Gamma

Apply gamma curve to light response to drive thickness

Line Color Group

Line Color From

Offers a number of different functions to determine line color

Use Line Mask

Mult by line mask from pattern node in AOV NPRlineMask

Lines Inside

Mult by alpha for only inside lines from line detect, don't go off geo

Light Response

Color lines by lighting