

# Package: nativeshadr (via r-universe)

May 31, 2026

**Title** Introduction of 'HLSL' Syntax to 'Rcpp'

**Version** 0.1.1

**Description** Brings 'HLSL'-like syntax to 'Rcpp' codes via the 'HLSL++' library <<https://github.com/redorav/hls1pp>>.

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**Imports** cli, colorfast, Rcpp, RcppParallel

**Suggests** fastpng, grid, testthat (>= 3.0.0), vdiff

**LinkingTo** Rcpp, RcppParallel

**Config/testthat/edition** 3

**Encoding** UTF-8

**Roxygen** list(markdown = TRUE)

**RoxygenNote** 7.3.3

**SystemRequirements** GNU make

**Config/pak/sysreqs** make

**Repository** <https://paithiov909.r-universe.dev>

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**RemoteUrl** <https://github.com/paithiov909/nativeshadr>

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ascii_filter	<i>ASCII filter</i>
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**Description**

ASCII filter

**Usage**

```
ascii_filter(nr, sc_factor = 128, intensity = 0.8)
```

**Arguments**

nr	A nativeRaster object.
sc_factor	A numeric scalar; the scale factor.
intensity	A numeric scalar; the intensity of filter edge. Set to 0 to disable the filter.

**Value**

A nativeRaster object.

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deform	<i>Deformation</i>
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**Description**

Deforms the image by sampling it at  $uv + \text{float2}(\sin(uv.y * \text{freq}.x) * \text{amp}.x, \cos(uv.x * \text{freq}.y) * \text{amp}.y)$ .

**Usage**

```
deform(nr, freq = c(10, 10), amp = c(0.1, 0.1))
```

**Arguments**

nr	A nativeRaster object.
freq	A numeric vector of length 2; the frequency of the deformation.
amp	A numeric vector of length 2; the amplitude of the deformation.

**Value**

A nativeRaster object.

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`godray`*Godray effect*

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**Description**

Godray effect

**Usage**

```
godray(  
  nr,  
  parallel = FALSE,  
  angle = pi/6,  
  center = c(0, 0),  
  gain = 0.5,  
  lacunarity = 2.5,  
  alpha = 1,  
  octaves = 5,  
  time = 0  
)
```

**Arguments**

<code>nr</code>	A <code>nativeRaster</code> object.
<code>parallel</code>	A logical scalar; whether to use parallel lighting.
<code>angle</code>	A numeric scalar; the angle of the light. If <code>parallel</code> is <code>FALSE</code> , this is ignored.
<code>center</code>	A numeric vector of length 2; the offset coordinates to roughly change the position of the light. If <code>parallel</code> is <code>TRUE</code> , this is ignored.
<code>gain</code>	A numeric scalar; the gain of the effect.
<code>lacunarity</code>	A numeric scalar; the lacunarity of the effect.
<code>alpha</code>	A numeric scalar; the alpha of the effect.
<code>octaves</code>	A numeric scalar; the octaves of turbulence.
<code>time</code>	A numeric scalar; ellapsed time.

**Value**

A `nativeRaster` object.

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gritty\_shade                      *Multiply turbulence to the image*

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### Description

Multiply turbulence to the image

### Usage

```
gritty_shade(
  nr,
  lacunarity = 2,
  gain = 1.2,
  intensity = 0.4,
  octaves = 5,
  time = 0
)
```

### Arguments

nr	A nativeRaster object.
lacunarity	A numeric scalar; the lacunarity of the effect.
gain	A numeric scalar; the gain of the effect.
intensity	A numeric scalar; the intensity of the effect.
octaves	A numeric scalar; the octaves of turbulence.
time	A numeric scalar; ellapsed time.

### Value

A nativeRaster object.

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retro\_filter                      *Retro look effect*

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### Description

Retro look effect

### Usage

```
retro_filter(nr, asp = rev(dim(nr)/100), distort = TRUE, time = 0)
```

**Arguments**

nr	A nativeRaster object.
asp	A numeric vector of length 2; factor to scale the offset of vignette effect.
distort	A logical scalar; whether to apply barrel distortion.
time	A numeric scalar; ellapsed time.

**Value**

A nativeRaster object.

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rgb_split	<i>Chromatic aberration effect</i>
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**Description**

Chromatic aberration effect

**Usage**

```
rgb_split(nr, r = c(0.01, 0), g = c(0, 0.01), b = c(0, 0))
```

**Arguments**

nr	A nativeRaster object.
r, g, b	A numeric vector of length 6; X and Y offsets for the red, green and blue channels (in uv coordinates).

**Value**

A nativeRaster object.

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ripple	<i>Ripple effect</i>
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**Description**

Adds a ripple effect to the image by sampling it at  $uv + \sin(\text{length}(uv - \text{center}) * \text{freq}) * \text{amp}$ .

**Usage**

```
ripple(nr, center = rev(dim(nr))/2, freq = 50, amp = 0.01)
```

**Arguments**

nr	A nativeRaster object.
center	A numeric vector of length 2. The distortion of the effect increases the farther they are from this point.
freq	A numeric scalar; the frequency of the effect.
amp	A numeric scalar; the amplitude of the effect.

**Value**

A nativeRaster object.

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shockwave	<i>Shockwave effect</i>
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**Description**

Shockwave effect

**Usage**

```
shockwave(
  nr,
  center = rev(dim(nr))/2,
  speed = log(min(dim(nr))),
  amp = 50,
  wave_length = 160,
  brightness = 1,
  radius = -1,
  time = 1
)
```

**Arguments**

nr	A nativeRaster object.
center	A numeric vector of length 2; the center coordinates where the shockwave starts.
speed	A numeric scalar; the speed about the shockwave ripples out (in pixels per time).
amp	A numeric scalar; the amplitude of the shockwave.
wave_length	A numeric scalar; the wave length of the shockwave.
brightness	A numeric scalar; the brightness of the shockwave.
radius	A numeric scalar; The maximum radius of the shockwave. Set to -1 for infinite radius.
time	A numeric scalar; ellapsed time.

**Value**

A nativeRaster object.

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twist	<i>Twist effect</i>
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**Description**

Twist effect

**Usage**

```
twist(nr, offset = rev(dim(nr))/2, angle = pi, radius = 100, padding = 0)
```

**Arguments**

nr	A nativeRaster object.
offset	A numeric vector of length 2; the offset coordinates to change the position of the center of the effect.
angle	A numeric scalar; the angle of the twist.
radius	A numeric scalar; the radius of the twist.
padding	A numeric scalar; padding for the filter area.

**Value**

A nativeRaster object.

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