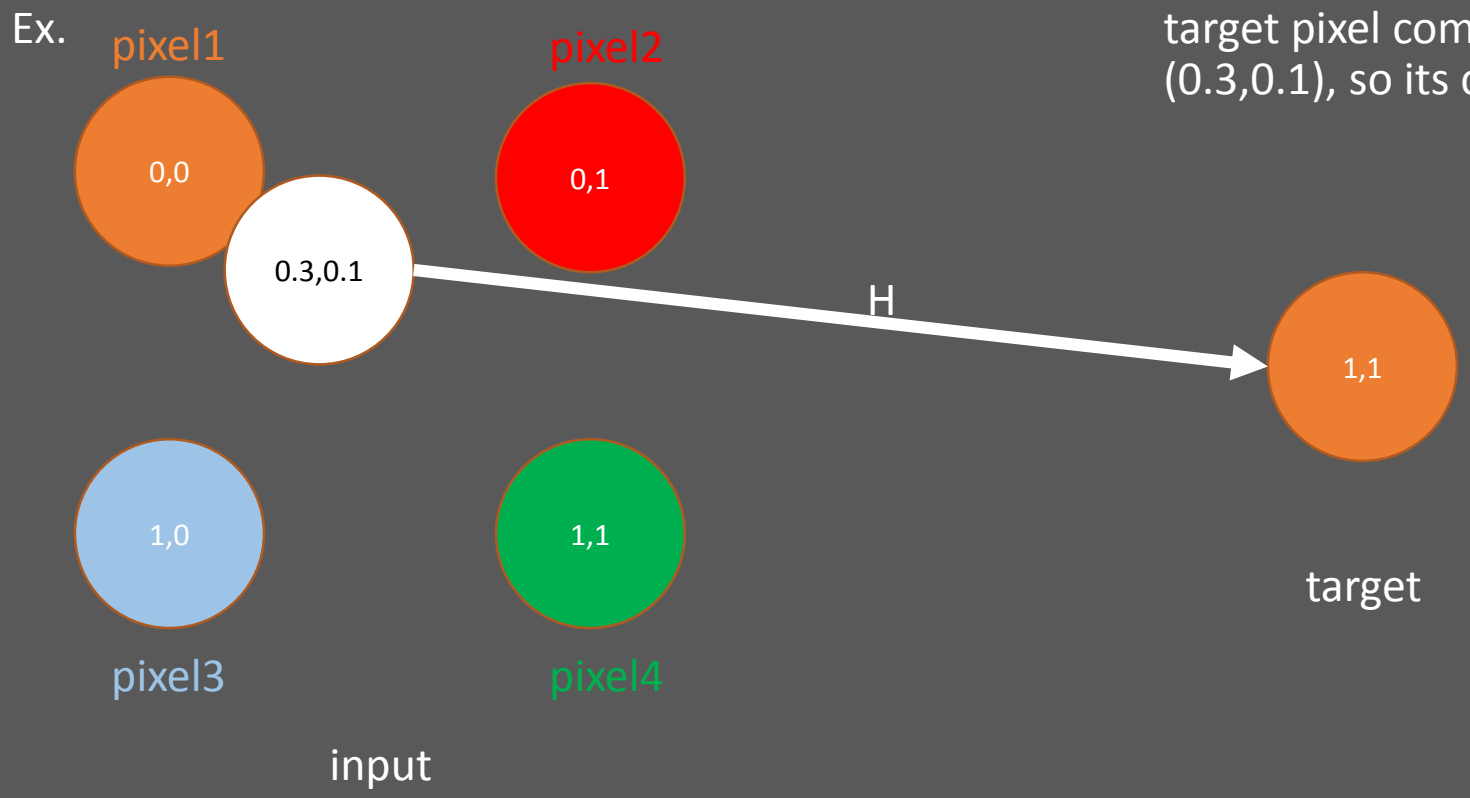
Warping

Backward warping

Nearest neighbor backward warping

Search what pixels produce you.

target pixel comes from input image location (0.3,0.1), so its color is the nearest one (0,0)



Forward warping

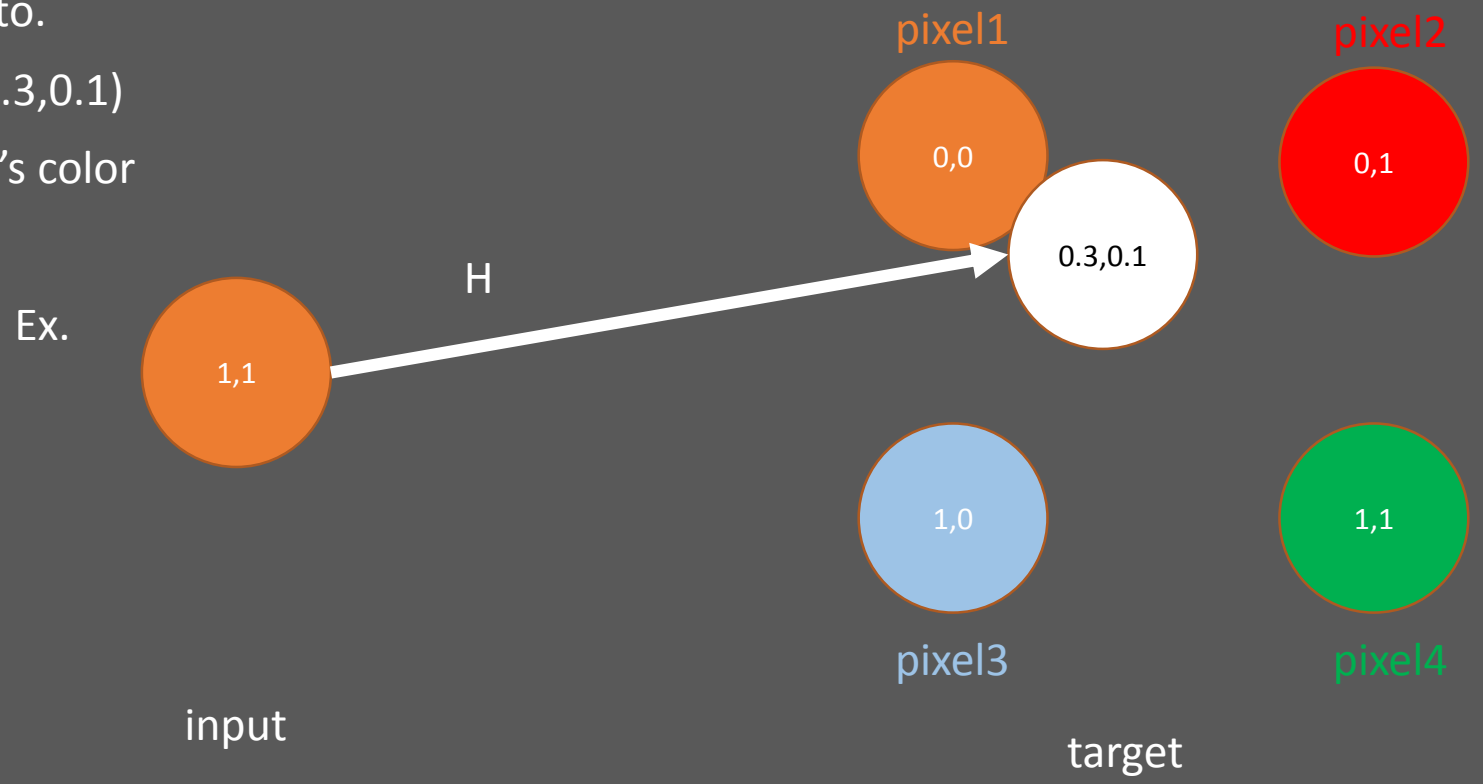
Nearest neighbor forward warping

You need to find pixels you offer color to.

Input pixel transform to the location (0.3,0.1)

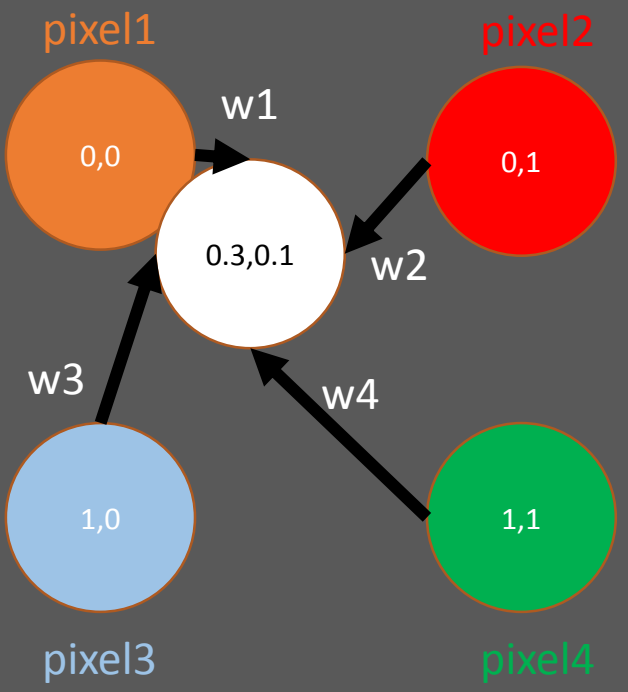
and pixel1 is the nearest one, so pixel1's color

fill with input pixel color



Bilinear Interpolation

- You need to consider the 4 near pixels to generate(interpolation) your color.
- Weight w is computed by its range.
- Color = pixel1_color*w1+pixel2_color*w2+pixel3_color*w3+pixel4_color*w4

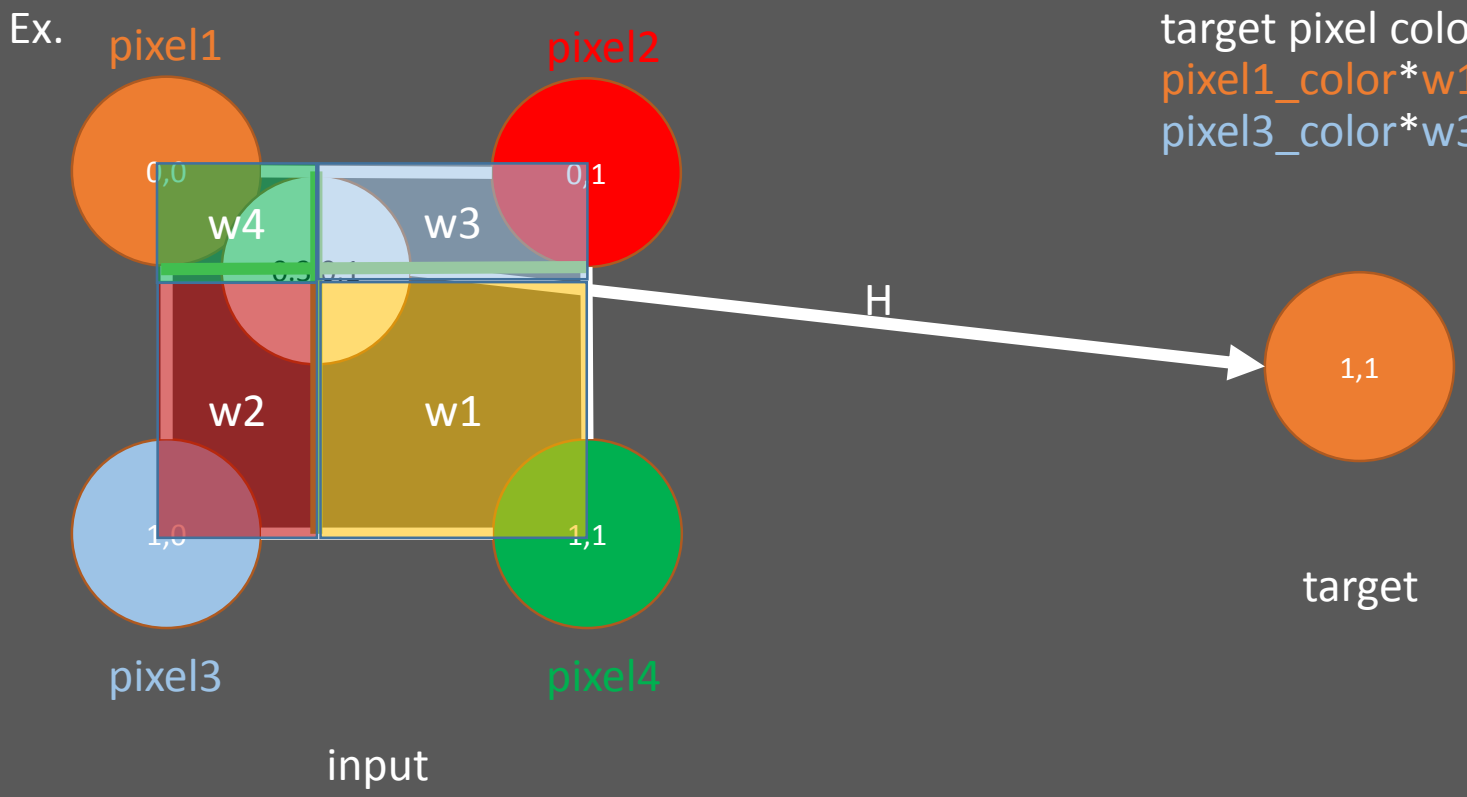


Backward warping

Bilinear backward warping

Search what pixels produce you.

target pixel color is
pixel1_color*w1+pixel2_color*w2+...
pixel3_color*w3+pixel4_color*w4



Forward warping

Bilinear forward warping

You need to find pixels you offer color to.

Input pixel transform to the location (0.3,0.1)

and distribute color to each pixel nearby.

Ex.

pixel1_color = input1_color*w1+…/W1

pixel2_color = input1_color*w2+…/W2

pixel3_color = input1_color*w3+…/W3

pixel4_color = input1_color*w4+…/W4

W1 = w1+w5+w6+w7