**Image Interpolation Algorithm**

Nearest Neighbor Interpolation and Bilinear Interpolation 11712610 马思清

1. Nearest Neighbor Interpolation

Nearest Neighbor Interpolation is a basic interpolation technique in image processing. When reshaping an image( increase or decrease the number of pixels), we first create a new image which have different pixel density and normalized it with the old image in the same scale.The main problems is how to determine the intensity of each new pixel. In Nearest Neighbor Interpolation, for each new pixel, the intensity is determined by the nearest old pixel, so called nearest neighbor. Notice that some equidistance situations may occur, if so, we choose one of the nearest pixels, in this algorithm, we always choose the top left corner.

The pseudo code:

1. Bilinear Interpolation