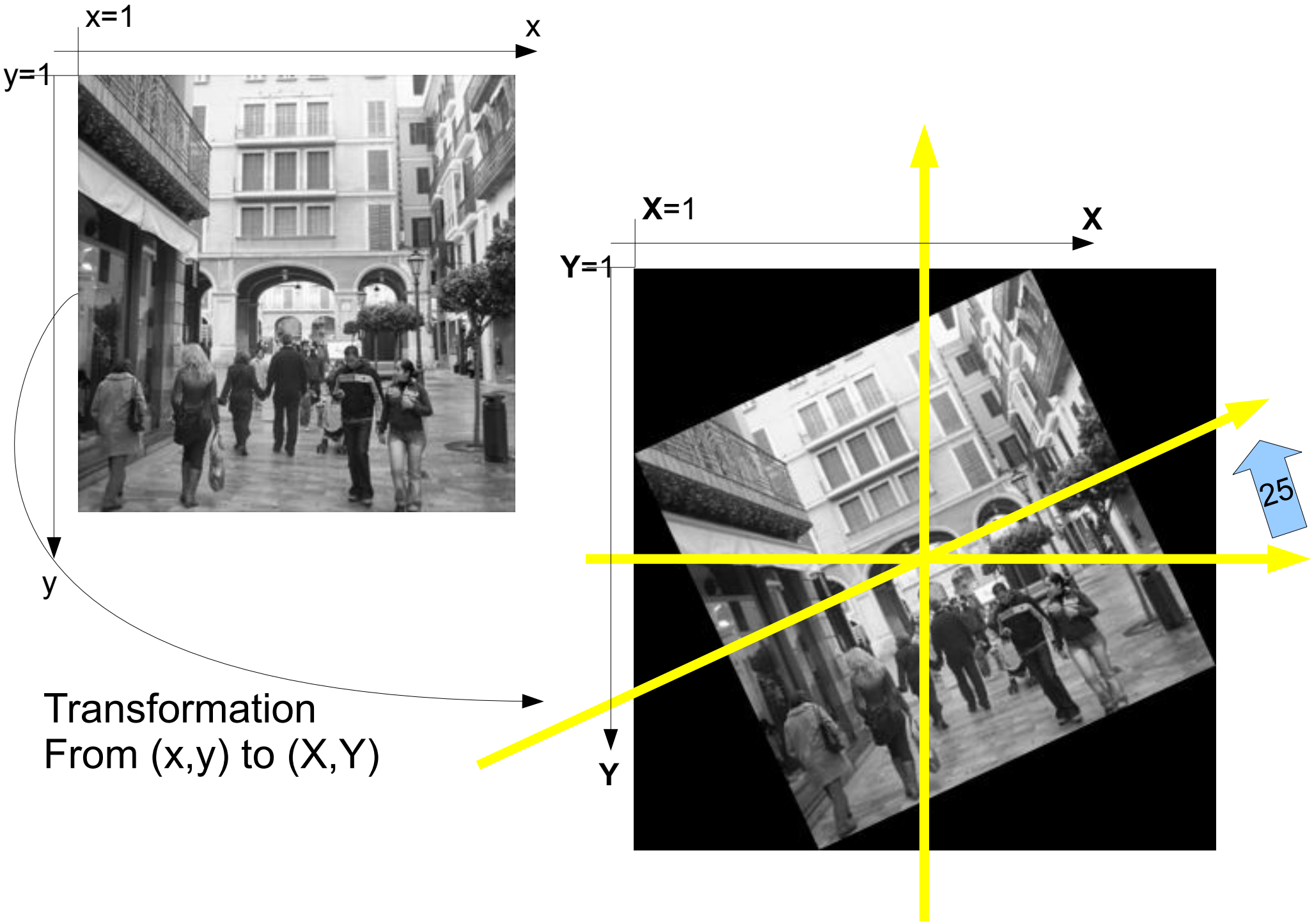
x=1
x
y=1
y
X=1
X
Y=1
Y
25
Transformation
From (x,y) to (X,Y)

Transformation

- These four files are generated by imrotate and imresize function.
- im1r=imrotate(im1,25,'bicubic');
- im2r=imrotate(im2,30,'bicubic');
- im1s=imresize(im1,1.3,'bicubic');
- im2s=imresize(im2,1.4,'bicubic');

Approximate transformation formula

Rotation

$$\begin{bmatrix} X \\ Y \end{bmatrix} = \begin{bmatrix} r_{11} & r_{12} \\ r_{21} & r_{22} \end{bmatrix} \begin{bmatrix} x - cx \\ y - cy \end{bmatrix} + \begin{bmatrix} t_1 \\ t_2 \end{bmatrix}$$

rotd t

Scale

$$\begin{bmatrix} X \\ Y \end{bmatrix} = \begin{bmatrix} r_{11} & 0 \\ 0 & r_{22} \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix}$$

Related files

Datasets	rotd	cx	cy	t
im1r	rotd1r.txt	128	128	t1r.txt
im2r	rotd2r.txt	200	150	t2r.txt
im1s	rotd1s.txt			
im2s	rotd2s.txt			