

# Going Back a little

- [Cameras.ppt](#)

# Applications of RANSAC: Solution for affine parameters

- Affine transform of  $[x,y]$  to  $[u,v]$ :

$$\begin{bmatrix} u \\ v \end{bmatrix} = \begin{bmatrix} m_1 & m_2 \\ m_3 & m_4 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} + \begin{bmatrix} t_x \\ t_y \end{bmatrix}$$

- Rewrite to solve for transform parameters:

$$\begin{bmatrix} x & y & 0 & 0 & 1 & 0 \\ 0 & 0 & x & y & 0 & 1 \\ \dots & & & & & \\ \dots & & & & & \end{bmatrix} \begin{bmatrix} m_1 \\ m_2 \\ m_3 \\ m_4 \\ t_x \\ t_y \end{bmatrix} = \begin{bmatrix} u \\ v \\ \vdots \end{bmatrix}$$

# Assignment

- Program-1
- info-Link
- Data

te:

u can generate, bring-in, your own images from www, as long as:

r  $n+1$  levels, image must be  $M_r \times 2^n + 1$  rows by  $M_c \times 2^n + 1$  cols

and  $M_c$  are any +ve integers

Sunday 10pm