Assignment 2

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Part 1

The camera centres, and the point of the intersection of the principal axes form an equilateral triangle. Coordinates of the C_R are $(d/\sqrt{2}, 0, -d/\sqrt{2})$. Thus the distance from C_L is **d**. Therefore, the translation is d.

$$F = K'[t]_\times R K^{-1}$$

Plugging in the terms we get,

b

$$F = \begin{pmatrix} 0 & -d/2 & 0 \\ -d/2 & 0 & -\sqrt{3}d/2 \\ 0 & \sqrt{3}d/2 & 0 \end{pmatrix}$$

c

$$Fx = d/2 \times \begin{pmatrix} 1 \\ 1 + \sqrt{3} \\ -\sqrt{3} \end{pmatrix}$$

d

Potential correspondences lie at the epipole between $\sqrt{3}$ and $-\sqrt{3}$

e

The family of epipolar lines alter from being divergent to becoming parallel horizontally.