

### Fundamental Matrix – RANSAC( $I_A, I_B, \epsilon$ ):

1.  $F \leftarrow I_{3 \times 3}$
2.  $Best_S \leftarrow 0$
3. *for num of iteration:*
  - 3.1.  $index \leftarrow$  pick 8 random pixels
  - 3.2.  $temp_F \leftarrow getFundamentalMatrix(I_A[index], I_B[index])$
  - 3.3.  $temp_S \leftarrow \#(|I_B[index]^T * temp_F * I_A[index]| < \epsilon)$
  - 3.4. *If  $temp_S > Best_S$  :*

$$Best_S \leftarrow temp_S$$

$$F \leftarrow temp_F$$
4. *Return  $F$*

### Calibration Matrix – RANSAC( $P_R, P_L, \epsilon$ ):

1.  $C \leftarrow I_{3 \times 4}$
2.  $most_{inlier} \leftarrow 0$
3. *for num of iteration:*
  - 3.1.  $points \leftarrow$  pick 6 random points
  - 3.2.  $temp_C \leftarrow getCaliMatrix(P_R[points], P_L[points])$
  - 3.3.  $temp_{inlier} \leftarrow \#(|temp_C * P_R[points] - P_L[points]| < \epsilon)$
  - 3.4. *If  $temp_{inlier} > most_{inlier}$  :*

$$most_{inlier} \leftarrow temp_{inlier}$$

$$C \leftarrow temp_C$$
4. *Return  $C$*

### Homography Matrix – RANSAC( $I_R, I_L, \epsilon$ ):

1.  $H \leftarrow I_{3 \times 3}$
2.  $most_{inlier} \leftarrow 0$
3. *for num of iteration:*
  - 3.1.  $pairs \leftarrow$  pick 4 random pairs
  - 3.2.  $temp_H \leftarrow getHomographyMatrix(I_R[pairs], I_L[pairs])$
  - 3.3.  $temp_{inlier} \leftarrow \#(|I_L[pairs] - temp_H * I_R[pairs]| < \epsilon)$
  - 3.4. *If  $temp_{inlier} > most_{inlier}$  :*

$$most_{inlier} \leftarrow temp_{inlier}$$

$$H \leftarrow temp_H$$
4. *Return  $H$*