Computer Vision
Assignment №8

Theoretical Questions

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1 Similarity Transform

A similarity transform needs 2 points for calculating the parameters.

1. Choose 2 pairs of transformed points randomly.
2. Compute the transform matrix and parameters using these 2 pairs of points.
3. Transform the first image with the calculated matrix.
4. Compute the loss of transform (e.g. MSE)
5. The points which their transform error is below a threshold, are selected as voting points for this model.
6. If the current model has more votes than previously best model, we keep this model as the current best model.
7. Repeat steps 1-6 for a number of iterations.
8. When the best model is found, the points which did not vote for this model are treated as outliers.
9. Use the voted points for calculating the gradient of transform and use the gradient for transform optimization.