

 is the scaling factor and the homogeneous coordinates should be normalized:



And the equation can be written in this form:



Solve  by SVD and reconstruct H by vector h.

However, the H is transposed from SVD, comparing origin H.

At least 4 pairs of points(8 points) should be provided to solve  as there are 8 degrees of freedom in H.

Normalization: in this assignment, warped\_pts should be normalized by the last factor:

warped\_pts(:, 3), s.t. warped\_pts to be homogeneous coordinates.