

EXERCISE 1

1. Take a picture and measure the height of something using a known height + parallel lines and cross-ratio
2. Rectify an image of a plane in 2 steps
 - a. Affine from perspective
 - b. Similarity from affine
3. Take a picture of a circle that is a hyperbola.
steps:
 - Figure out where to place the camera relative to circle.
 - Fit a conic to points on the imaged circle. (Least squares, SVD)
 - Compute the discriminant (look up) of the conic equation (not solving a quadratic) to show that it is a hyperbola

Read wiki on SVD
Explain + code + pics