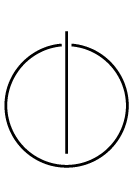

Multiple View Geometry: Exam Preparation

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http://vision.in.tum.de/teaching/ss2013/mvg2013

Exercise: July 8th, 2013

In this exercise class, we have the chance to review the course material and to answer **your questions**.

If there is time left, we will have a look at the following exercises:

1. Get familiar with the Matlab function `bwdist`.
   You can e.g. use the images in `mvg_exam_preparation.zip`.

2. Consider the matrix $R = I - 2nn^\top$ with the 3×3 identity matrix I and vector $n \in \mathbb{R}^3$ with unit length, i.e. $|n| = 1$.
   (a) Show that $R^{-1} = R^\top = R$.
   (b) Show that one of the eigenvalues of R is -1 and two eigenvalues are 1.
   (c) Show that $R \in O(3)$ and $\det(R) = -1$, i.e. R is a $\ldots ? \ldots$ matrix.
   (d) What can be concluded about the corresponding eigenvectors?