Name: _____

Score: /8

CSE 5524 Computer Vision for HCI

Homework Assignment #9

Due: See Carmen for due date

Camera Calibration:

1) Load the 100 pairs of corresponding 2-D and 3-D points in the files 2Dpoints.txt and 3Dpoints.txt (the i^{th} row of both files corresponds to the i^{th} point). Use these point correspondences to solve (using Eigen-analysis) for the camera matrix P (whose rasterized vector **p** has a unit L_2 norm). [5 pts]

2) Given the computed matrix P (from Problem 1), project the 3-D homogeneous points $(X_i,Y_i,Z_i,1)$ to 2-D. Compute the sum-of-squared error (sum-of-squared distances) between the resulting 3-D-to-2-D projected points and the given 2-D points (ensure all 2-D points are inhomogeneous). [3 pts]

3) As usual, submit your material to Carmen.