

Assignment A7: Albedo-Illumination Function

CS 6320
Spring 2014

Assigned: 19 February 2014

Due: 26 February 2014

For this problem, handin a pdf with the requested discussion and work (include name, date, assignment and class number in pdf), as well as the Matlab code. The code should conform to the style requested in the class materials. (Not a Lab Report!)

Develop a Matlab function to calculate the *Albedo and Illumination Direction*: given an image. Validate the code on an image synthesized using the Fundamental Equation of Shape fro mShading.

The function specification is:

```
function [rho,sigma,tau] = CS6320_Approx_albedo_Illum(im)
%
% CS6320_Approx_albedo_Illum - find albedo and illumination direction
% On input:
%   im (mxn image): grayscale input image
% On output:
%   rho (float): albedo
%   sigma (float): angle 1 of illumination direction
%   tau (float): angle down from z-axis
% Call:
```

```
%      [r1,s2,t1] = CS6320_Approx_albedo_Illum(im1);  
% Author:  
%      <Your name>  
%      UU  
%      Spring 2014  
%
```