CMPT 412 Assignment 2 Fall 2017

Spotting Cigarette Butts

Due Date: I'll give you 1 week's notice of the final due date. My current plan is for it to be due October 2, 2017.

Goal: Write a Matlab program to locate as many of the cigarette butts as you can in digital images like the ones posted. By 'locate' I mean that your program should specify each butt's location in a way that a robot could use to pick up it up. You don't need to be able to find all the butts in order to be successful, but the more the better of course. You can set limits on what is expected of your program. For example, perhaps it will only be able to find white (not tan) butts. Whatever limits you impose, please state them clearly in your documentation. In writing your program, you can use any built-in feature of Matlab plus all the features of the Image Processing Toolkit. If there's something else you'd like to use, please ask first. The point of the assignment is to get some experience with images and the tools in the Image Processing Toolkit, so please focus on inventing your own solution rather than searching the net for something that might solve the entire problem.

Submit via Canvas

(1) Your Matlab **code**;

(2) A **write up** describing your algorithm, how it works, what you tried, why it works, its limitations, its special features and so on. I expect 2-5 pages of text plus any pictures you might like to include. It does not need to include a user manual;

(3) A **journal** that you have kept as you were doing the assignment. If your journal is handwritten, please scan it and submit it via Canvas.

Your journal should consist of notes that you took of things you tried during your work on this assignment. This can be in any form, including handwritten. It doesn't have to be pretty. It's your raw record of what you did. Don't try to write it after you've completed your program, write it each time you work on your program.

After the due date, times will be set up for you to demonstrate your programs to our TA, Rakesh Shrestha.

I've posted a set of sample test images on Canvas. I have a second set of images that may be used to show how general your program is during your demo.