

# CS 4476/6476 Spring 2020

## PS4

Name

GT Email

GT ID

# Color Quantization with K-Means

## 2.1 Color Quantization of RGB images

<Insert images here>

## 2.2 Color Quantization of HSV images

<Insert images here>

## 2.3 Quantization error (remember to use the random state initialized in the script).

Enter values as  $\log_e(\text{error})$

k	RGB	HSV
3		
5		
10		

## 1.4 Answers (1-2 sentences each)

a)

b)

c)

# Hough Transform

Hough Transform on Generated Images

## 3.1.1 Traffic lights - Blank

<Insert images here>



## 3.1.2 Traffic lights - Scene

<Insert images here>

## 3.2.1 Stop sign detection

<Insert images here>

## 3.2.2 Warning sign detection

<Insert images here>

## 3.2.3 Construction sign detection

<Insert images here>

## 3.2.4 Do not enter sign detection

<Insert images here>

## 3.2.5 Yield sign detection

<Insert images here>

# Extra Credit

Hough Transform on Real Images

## 4.1 Known Radius

<Insert images of detected circles here>



## 4.1 Known Radius

<Insert images of different thresholds here>

## 4.2 Unknown Radii

<Insert image here>