1928
K. N. Toosi University of Technology

In the name of God

Computer Vision

Faculty of mechanical engineering

Instructor:
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Assignment 2

Due date: 01/02/05

1- In soccer, goal line technology has been developed to help the referees find out whether the whole ball passed the line or not. Write a code based on Hough Transform to detect a goal (assumption: it is a goal, if the whole ball is above the white line).

Goal:

No goal:

2- By using CIFAR-10 dataset:

a. Use raw pixel values as the input and train the following classifiers on the training set of the dataset:
   i. KNN
   ii. Decision Tree
   iii. Linear Classifier
   iv. Logistic Regression
   v. Ada-boost
   vi. SVM

b. Repeat the previous part. This time, instead of using raw pixel values, extract HOG features from the images and use them for classification.

For each part, report the precision, recall, F1-score, and confusion matrix for test data.

Good Luck