COMS4036A: Computer Vision
Project 1: Counting Coins

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Due Date: 12:00 on Wednesday September 20, 2017

1   Instructions

Create a computer vision system to return the value of the coins on on my desk. Your program should take in one or more images and return the total value of the coins on the desk.

You may use any technologies, libraries, or methods – although I suggest using Python with OpenCV. Consider using SciKit-Learn or any other machine learning library as well. Consider using shape detectors (Hough Transform), object detectors (Cascade Classifiers, R-CNNs), Feature Descriptors (LBP, HOG), Background Subtraction (KNN, MoG), or even alternate colour spaces (HSV).

Your system should be able to graphically display where the coins are detected and what the value of each coin is.

2   Deliverables

- A program that detects the coins and classifies their value

- A GUI that shows where the coin was detected and displays the individual values

- A short (5-10 pages) report outlining the following items:

    1. What technology did you use?

    2. What are the underlying algorithms and how to they work?

3. What are your results?

4. Were there some cases where it worked particularly well or badly?

5. Any conclusions.

- A demo of your program on the due date.