EE 368 Final Project
Automated Foreign Bill Recognition with Android Phone

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Project Goal

Identification and conversion of foreign currency is a valuable tool for any traveler. We aim to provide an Android phone application that gives near real-time USD conversion of foreign currency by taking a picture of foreign bills. The algorithm would function by taking an image of a set of non-overlapping of foreign bills. This image would be then be sent to a server where it would be processed. The server would be responsible for labeling regions of the image with a bill present through image segmentation. As the bills will likely never be taken with a head-on shot, the boundaries will be used to transform and flatten the region. The resulting regions will be compared against a training set of several foreign currency bills with the SIFT algorithm using tools from VLFeat. The local currency value is converted to USD by using an up-to-date foreign currency conversion web tool. The position of each bill along with its USD value is sent back to the phone where it is overlaid on top of the original image and summed for the user’s convenience. The number of recognizable foreign currency bills would be limited to approximately 100 unique bills. The training bills would come from one of many available online resources.

Reference


