

Abstract

With the development of science and technology, the areas of investigation, searching, rescue or production which are originally man-made operations, are gradually carried out by the machines. Presumably, there will be more intelligent products in these areas. The machine vision play a very important role in our daily life. Therefore, we will like to apply this technology to make a study on commodity identification system.

Our commodity identification system mainly use SURF algorithm to analyze the image, find the matching points, compare to the database, and show out the product information. After the quick matching, we determine which product it is and display. In order to speed up the calculation of the feature points and matching. We apply the foreground and background separation step to find ROI region and greatly reduce the calculation procedure.

We build a website for our commodity identification system. First, we upload the picture which we captured from client side to server. Second, run our program on the server side. Third, the server side returns the matching result to our client side and display the product on the client screen. Users may also leave messages on our system.

We successfully build a small system about commodity identification system. In the future, we will add more commodity products and information in this system. Although, currently we can only apply still images to our system. In the near future, we hope that we can apply video streams to our system and let it become a real-time commodity inquiry system.

Key words: SURF, database, image analysis, feature point, commodity identification system