

ABSTRACT

THREE-DIMENSIONAL (3D) DEPTH AND TWO-DIMENSIONAL (2D) IMAGING SYSTEMS AND METHODS FOR AUTOMATIC CONTAINER DOOR STATUS RECOGNITION

Three-dimensional (3D) depth imaging systems and methods are disclosed for automatic container door status recognition. A 3D-depth camera captures 3D image data of a shipping container located in a predefined search space during a shipping container loading session. A container recognition application (app) receives the 3D image data, and determines therefrom a container point cloud representative of the shipping container, and a 3D image door area data subset defining one or more door areas of one or more corresponding doors of the shipping container. The container recognition app determines, from the 3D image door area data subset, a status type, of each of the one or more corresponding doors, selected from one of: (a) a door opened status type, (b) a door closed status type, or (c) a door partially closed status type.

(No suitable figure)