DRT SL-DRT-13-0571

Research field: Computer science and software / Engineering science

Title: Automatic pedestians detection by active sensors

Abstract:

Although the automatic person recognition improved a lot, the problem is still open for embedded systems working in complex environments. In order to improve recognition rates an approach was recently proposed which is based on the fusion of 3D and appearance (i.e. image) informations. These 3D informations are usually obtained by stereoscopic cameras.

The goal of this PHD is to use a 3D active sensor like Microsoft's Kinect in order to obtain 3D informations in conditions leading passive sensors to fail. The work will begin by calibrating and synchronising the different data sources. The candidate will then be able to work on the fusion method and on a learning algorithm for joint 3D and image data taking into account all the sensor's specificities. The second part of this PHD will consist in catching up the weaknesses of this mass market system, which was designed for domestic applications, in order to create an embedded system for industrial applications, i.e. in diverse lightning conditions and with higher distances.

Location:

Département Intelligence Ambiante et Systèmes Interactifs (LIST)

Vision & Ingénierie des Contenus (SAC)
Starting date: 01/10/2013
Centre : Saclay

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