Vision in robot soccer: a review

Abstract

This paper will give readers an overview of the vision system used on Robot Soccer systems. Firstly, it lists out the positioning of the cameras that are used on a robot soccer system both for FIRA and RoboCup. Here various position of camera placement is explained; among them are the global and local visions. This is further broken down to center and side positioning for global vision. For local vision, it is divided into three, namely omni-directional, binocular/stereo and monocular. Next, image processing algorithms will be explained and related reference with their advantages and disadvantages. The reviewed algorithms are Kalman Filter, CamShift and Optical Flow. Brief description of each algorithm is also included.