

Future trends of visual tracking

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Abstract

A primary objective of this paper is to survey the current state of the art on visual tracking approaches, group them into categories, and identify potential future directions. Visual tracking plays a crucial role in many computer vision applications and has been studied extensively over the past few decades. Many methods have been proposed, yet, providing accurate visual tracking remains a difficult task. Tracking can be difficult when there is abrupt object motion, appearance pattern change, non-rigid object structures, occlusion, and camera motion. In this paper, we take a closer look at the state-of-the-art feature descriptors, a method for describing how tracked objects appear. In addition to this, we also categorize the tracking methodologies into three categories, describe in detail representative methods from each category, and discuss their pros and cons. Lastly, we describe future directions for the visual tracking research field.

In recent years, eye tracking has become the most accessible hardware, and its market share is steadily rising. There is an increasing number of researchers sharing data, exchanging methods, collaborating on data improvement, and developing eye tracking techniques that are standard.