

Visual Attention from a Graphics Point of View

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Abstract

Eye movements are a reliable indicator of overt visual attention. Because multiple factors influence where people attend in images, understanding how our attention is deployed and predicting where we look at are challenging, and a subject of ongoing research across the world. This tutorial reviews 4 main points: - In the first part of the tutorial, we will discuss eye tracking methodology and methods for analyzing eye tracking data. - As we expect to soon find gaze recording devices on hand-held devices, researchers have explored the use of eye tracking as a form of implicit user input to computational algorithms. We will review existing literature, with a focus on attention-driven image, and video editing. - In parallel to these gaze contingent applications, we will present the strengths and weaknesses of computational models of visual attention, with a special emphasis on saccadic models. - Finally, we will discuss how saliency models could be used to add efficiencies to graphics applications, with a focus on compression, and rendering.
