



AI-Facilitated Glocal Saliency Maps Similarity Comparison as a Relaxed Approach under Compressed Decision Cycles

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Abstract:

Glocal context is a recognized notion that has been demonstrated to achieve enhanced performance over local and global context (individually). For this paper, this notion is applied to Saliency Maps (SM). In theory, Glocal Saliency Maps (GSMs) should exhibit superior performance over Local Saliency Maps (LSMs) or Global Saliency Maps (GSMs) (when treated separately). Generally speaking, this is indeed the case. Hence, an architectural paradigm was experimented with to enhance the glocal method pipeline at key areas, such as at the Convolutional Autoencoder, Locality-Constrained Linear Coding (LLC), and Multi-layer Cellular Automata (MLCA). In many instances, the precision, recall, and F1 scores exhibited better performance; hence, some promise was shown. Accordingly, this pathway may constitute a more relaxed approach than utilizing Saliency Map Graphs (SMGs) and Graph Isomorphism (GI), which can entail high computational complexity and unknown execution times that may not be suitable under conditions of Compressed Decision Cycles (CDC).

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