

## **Error concealment innovator based on the multidirectional interpolation by using the similarity segmentation.**

### ABSTRACT

In this paper, an error concealment algorithm based on the multi-directional interpolation (MDI) was proposed. The algorithm has the capability to recover the damaged blocs, whether located in smooth or non-smooth areas. In the case of smooth regions, the missing coefficients were estimated by interpolating these coefficients with undamaged adjacent pixels. While, in the non-smooth areas (for example edge components), these blocks were portioned to at least four quarters, in the intention to exploit all border pixels. In the meantime, pixels of the border left and right were estimated with horizontal interpolation, pixels of the border top, and bottom were estimated with vertical interpolation, Whereas the remaining pixels of each quarter were simultaneously guessed with vertical and horizontal interpolation. Finally, another algorithm to convert pixels to feet proposed. The motivation behind the current implementation and the problem that we aim to solve lies on how to convert the size of the base and height of triangles from pixels-to-feet. In the intention to calculate the areas of these triangles, for the purpose of compensation. The experimental results showed that the number of pixels occurred and the error was relatively low.

**Keyword:** Edge detection; Error concealment (EC); Image segmentation; Multi-directional interpolation (MDI).