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An Image Verification Framework Development

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An efficient representation and implementation of image are necessary, as a digital image is an approximation of some real situation, and carries some uncertainty. In order to deal with this uncertainty we need appropriate image model, which also enable image processing without losing the information regarding the uncertainty. Interval arithmetic techniques appear as a good option for handling the uncertainty. In this work we will discuss the extended of the classical notion of digital image, in the which each pixel has as degree of intensity an exact value to the interval digital image one, where each pixel possesses an interval intensity that include lower and upper bound of every element of the image. The time consuming process of image data processing can be address using parallel computing techniques that provide an efficient and convenient way to address this issue. The paper concludes that considering the interval arithmetic in designing solutions for some applications may impact the performance of algorithms and the image processing tasks may benefit from an efficient image verification model.

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