ABSTRACT

Interpolation with Bicubic and Makima Methods to Revine the Gradation off Thermal Images of AMG8833 Sensor Reading

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Digital image processing has been implemented in various fields such as in thermal cameras to measure body temperature as a preventive measure against the spread of COVID-19. In digital image processing, there is an interpolation method that is used to determine new pixels based on existing pixels without affecting the pixel value. Interpolation has an important role in digital image processing such as in the process of enlarging, reducing, or refining images. There are several types of interpolation including bicubic and makima. Bicubic interpolation is an extension of cubic interpolation and makima interpolation is an extension of akima interpolation. These two types of interpolation are the best methods compared to other methods in digital imagery based on several studies. So that the best method will be determined to produce smooth color gradations in the image and implemented on the thermal image of the AMG8833 sensor readings for image sizes larger than 8x8 pixels. From the application of one-dimensional data, it is found that makima interpolation is the best interpolation method applied to thermal images and can be applied to thermal images from the AMG8833 sensor readings.

Keywords: bicubic, digital image, interpolation, makima, pixels, thermal.