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PRODUCTION OF SEAMLESS MOSAIC USING DUBAISAT-2 AND KHALIFASAT IMAGERY

Abstract

Nowadays, with the rapid development of remote sensing technology, it is very challenging to capture the region of interest (ROI) using single image. For that reason, image mosaicking become an important part of satellite imagery production, it is the process of stitching multiple remote sensing imagery captured at different times, by different sensors or different angles which are overlapped into a large-scale seamless panoramic image. This paper presents a methodology for generating seamless mosaic of Khalifasat and Dubai-sat2 images. The mosaic is implemented in multiple stages. Firstly, the composite (RGB) imagery for each scene is being generated and in order to produce high-resolution RGB images, different pansharpening techniques such as Gram-Schmidt will be used for the fusion of the high-resolution panchromatic band with low-resolution multispectral bands. Secondly, pixel-based mosaic to stitch non-georeferenced imagery by finding the common pixel between the scenes. Thirdly, Georeferencing the generated pixel-based mosaic that cover certain area using accurate UAE base map. Finally, the georeferenced passes are stitched together and different color-balancing and seamline editing techniques are used to generate the seamless high-resolution mosaic.