Feature-Preserving Downsampling for Medical Images

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In the medical imaging field, interactive direct volume rendering of large volume datasets is a challenging task. Multi-resolution techniques deal with this problem by downsampling the original dataset to produce coarser representations. We present an evaluation of different downsampling filters with respect to their effectiveness at preserving details of the original dataset. Moreover, we propose a new Gaussian-based filter that produces quality lower-resolution representations and preserves small features that are prone to disappear.

http://dx.doi.org/10.2312/ceig.20151206