Variational method - A second order model for 3D medical image restoration

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This subject is the implementation of second order model for texture extraction on three-dimensional visualization, which improves some disadvantages of the Rudin-OsherFatemi (ROF) model. In addition, we add an algorithmic modification that improves denoising and/or texture extraction significantly using a modified Hessian matrix. Then, we present an "anisotropic" improvement of the algorithm which takes into account the (local) contours to compute the second-order derivative. Numerical experimentation has been considered in the context of bio-medical imaging, specially we focus on a vessel network of brain mice.

Références

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