

Extracting geometric content from images using normal meshes

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Abstract

We propose an image compression method based on normal offsets. A normal offset transform is an edge-adaptive, nonlinear multiscale decomposition. As such, it can be considered as an instance of the next generation image analysis tool after wavelets. Other members of this generation multiscale methods include Donoho's and Candes' curvelets, wedgelets, and so on.

In this talk, we explain the use of normal offsets versus wavelets on geometry based images.

We introduce a probabilistic model for normal offset data which can be used in an entropy coding scheme for compression on horizon images. Furthermore, we employ ideas related to regression trees to obtain optimal approximations under a bit rate constraint.