GENERALIZED ALGORITHM TO THE EXTRACTION OF HEIGHT RIDGES IN RIEMANNIAN GEOMETRY

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ABSTRACT

Surface creases (ridges and ravines) provide us with important information about the shapes of objects and can be intuitively defined as curves on a surface along which the surface bends sharply. These features are a task in many areas such as computer vision and image processing. Even though a significant amount of research has been directed to defining and extracting ridges and ravines some fundamental challenges remain.

The authors in [6, 21] have recently shown the attraction of ridge and height ridge as a generalized local maximum in *2-D* Riemannian Geometry, and have presented a new algorithm to extract height ridges from *2-D* images. Here, we are concerned also with attraction ridge and height ridge definitions as a generalized local maximum, but in *n-D* Riemannian Geometry, and then we have a new algorithm to extract height ridges from *3-D* and n-D images. The results in this paper considered as a continuation to [1, 2, 3].

KEYWORDS: Ridges, Height Ridges, Ridge Directions