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Point cloud modeling using fractal interpolation

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Point clouds have been increasingly popular in modeling three dimensional objects, especially objects digitized by 3D scanners. A point cloud often contains a huge amount of information; millions of points, along with additional data such as normal vectors or colour, arise in many practical applications. Therefore, various techniques have been developed for representing point clouds in a compressed form. In this paper, we introduce a new method for representing point clouds using fractal interpolation techniques. Experiments indicate that the proposed method achieves competitive results, yielding considerable compression ratios.

Keywords: point clouds, fractal interpolation, iterated function systems.