A Method of Mesh Simplification for Drone 3D Modeling with Architectural Feature Extraction

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Abstract. This paper proposes a method of mesh simplification for 3D terrain or city models generated photogrammetrically from drone captured images, enabled by the ability of extracting the architectural features. Compare to traditional geometric computational method, the proposed method recognizes and processes the features from the architectural perspectives. In addition, the workflow also allows exporting the simplified models and geometric features to open platforms, e.g. OpenStreetMap, for practical usages in site analysis, city generation, and contributing to the open data communities.

Keywords: Mesh Reconstruction, photogrammetry, mesh simplification, procedural mode, machine learning.