



UNIVERSITÀ DI PISA

3D models of bronze artifacts

Report

The technique used is the photogrammetry *structure from motion*, by which it is possible to obtain three-dimensional metric information of objects through interpretation and measurement of photographic images, using passive optical sensors (photocameras).

To get a photogrammetric 3D model a series of photographs convergent and with a high percentage of overlap are acquired, moving around the object to be detected.

The method is relatively simple and generally involves the following steps: image acquisition, image alignment (orientation), generation of point cloud (sparse and dense), generation of structured polygonal model (mesh), generation of high-resolution photo-realistic texture.

The models obtained are scaled in real size by measuring a known distance.

The 3D models, for purposes of study as well as analysis (orthophotos, sections, analysis of deviations, measurement of distances and volumes, etc.), can be used for educational and informational purposes, using special software or web platforms that allow users to visualize and interact with the virtual object.

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