

# Real-time 3D Model Difference Reasoning with HoloLens



**Goal:** Interactive visualization of model differences (current scan vs. pre-loaded model on the HoloLens).

## Description:

After loading a reference model to the HoloLens device, the internal mapping of the HoloLens can be used to directly compare the currently scanned model against the pre-loaded reference model.

In a first step the reference model needs to be aligned with the current scan (using either with ICP [1] or global methods [2]). Significant differences between the models shall then be highlighted in real-time with intuitive augmented reality overlays.

## References:

[1] Besl, Paul J.; N.D. McKay, A Method for Registration of 3-D Shapes, TPAMI, 1992.

[2] Zhou QY., Park J., Koltun V., Fast Global Registration. ECCV, 2016.

## Requirements / Tools:

Required: C++/Visual Studio on Windows 10

Recommended: Unity3D and graphics experience

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