Scan-to-BIM for Bridges using Deep Learning

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ABSTRACT

In the recent construction industry, Building Information Modeling (BIM) technology has been used not only in the design and construction stages, but also in the maintenance phase. However, most existing bridges do not have BIM. In this case, scan-to-BIM technology can be used to build the BIM by scanning the structure with LiDAR or a camera. This study introduces the scan to BIM technology, 1) generates point cloud data though data collected using camera or LiDAR, 2) design parameters of the bridge using deep learning-based semantic segmentation 3) automatically extracts the design parameters of the bridge and builds BIM through parametric modeling.
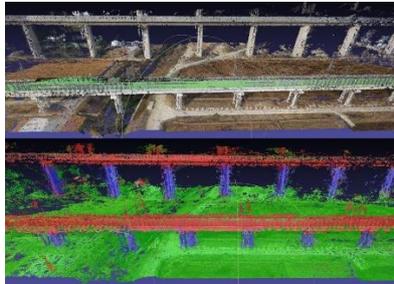
Fig. 1 Segmentation point cloud

REFERENCES

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