

## Combining LiDAR and Photogrammetry to Generate Up-to-date 3D City Models

Zhou, Kaixuan

**DOI**

[10.4233/uuid:89466e36-b579-4943-b3da-b251dd52209f](https://doi.org/10.4233/uuid:89466e36-b579-4943-b3da-b251dd52209f)

**Publication date**

2020

**Document Version**

Final published version

**Citation (APA)**

Zhou, K. (2020). *Combining LiDAR and Photogrammetry to Generate Up-to-date 3D City Models*. [Dissertation (TU Delft), Delft University of Technology]. <https://doi.org/10.4233/uuid:89466e36-b579-4943-b3da-b251dd52209f>

**Important note**

To cite this publication, please use the final published version (if applicable). Please check the document version above.

**Copyright**

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

**Takedown policy**

Please contact us and provide details if you believe this document breaches copyrights. We will remove access to the work immediately and investigate your claim.

# Propositions

accompanying the dissertation

## Combining LiDAR and Photogrammetry to Generate Up-to-date 3D City Models

by

**Kaixuan Zhou**

1. For building change detection from airborne laser scanning and optical imagery, it is better to bring LiDAR data to the image domain than to bring image data to the point cloud domain. (this thesis)
2. For extracting accurate building boundaries from airborne data, pixel-based fusion of LiDAR data and optical images is better than object-based fusion. (this thesis)
3. Organizations that use either only LiDAR data, or only optical images for creating and updating large scale 3D city models are wasting money. (this thesis)
4. The value of data depends on the knowledge of its users.
5. Autonomous driving should focus more on fusing complementary information from multi-sensors, than on further advancing complicated detection and segmentation algorithms.
6. Deep learning hinders deep understanding.
7. Real democracy is only possible for a well-educated electorate.
8. The current divisive atmosphere in global politics prevents research cooperation in high-tech developments, such as 5G and astronautics.
9. Running a marathon and doing a PhD require the same attitude: keep moving and forget about the finish.
10. Scientists should have at least one other hobby than their research.

These propositions are regarded as opposable and defensible, and have been approved as such by the promoters Prof. Dr. Ir. R.F. Hanssen and Dr. R.C. Lindenbergh.