

Geosci. Model Dev. Discuss., referee comment RC1
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Comment on gmd-2022-85

Anonymous Referee #1

Referee comment on "SHAFTS (v2022.3): a deep-learning-based Python package for simultaneous extraction of building height and footprint from sentinel imagery" by Ruidong Li et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2022-85-RC1>, 2022

This study develops a deep-learning (DL) based Python package-SHAFTS to extract 3D building information (average building height and footprint) from publicly available satellite imagery. Compared to conventional machine learning-based models and single-task DL models, the proposed multi-task DL models can effectively improve the prediction accuracy. This study involves the fusion of multi-source input data and many machine learning and deep learning models, which undoubtedly requires huge and solid work from the authors. Although I am not the expert in computer science, the evaluation framework presented in Section 3 is scientifically sound from my perspective – very quantitative from patch-level to city level. And I will consider using the developed package in the future. I only have the following minor comments.

Minor comments:

- Line 368, the caption of Figure 4, need to denote the source of reference values when calculating RMSE, MAE, etc.

