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A simulation toolbox for images and point cloud annotations on agricultural scenarios

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In recent years, there has been a great interest in applications of machine learning in agricultural environments. However, for many agricultural machine learning problems, training datasets are site-specific (e.g., light condition, time of the day, one time of the season), making it not trivial to obtain a model that can generalize abroad crop type, cultivar, management, season, among others. In addition, the data-labelling process can always be labor and cost intensive, especially with LiDAR data due to the variability of the crops and the sparse nature of the point cloud information. This study presents an open-source simulation toolbox that allow an easy generation of synthetic labelled data for RGB and point cloud information for different type of cultivars, and how to use that data for enabling a more efficient training in ML applications

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