IfZ

Extraction of Genotype-Related Geometric Parameters of Sugar Beet for Variety Description Using 3D Data

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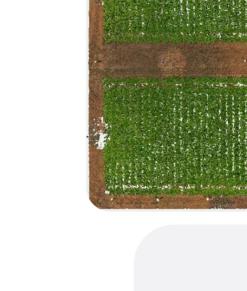
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Data Collection and Processing





LiDAR scans in field and greenhouse trials



Registration and preprocessing



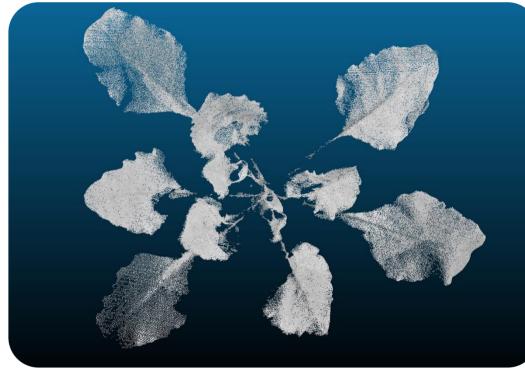


Point clouds from fields and single plants with ~1 mm resolution



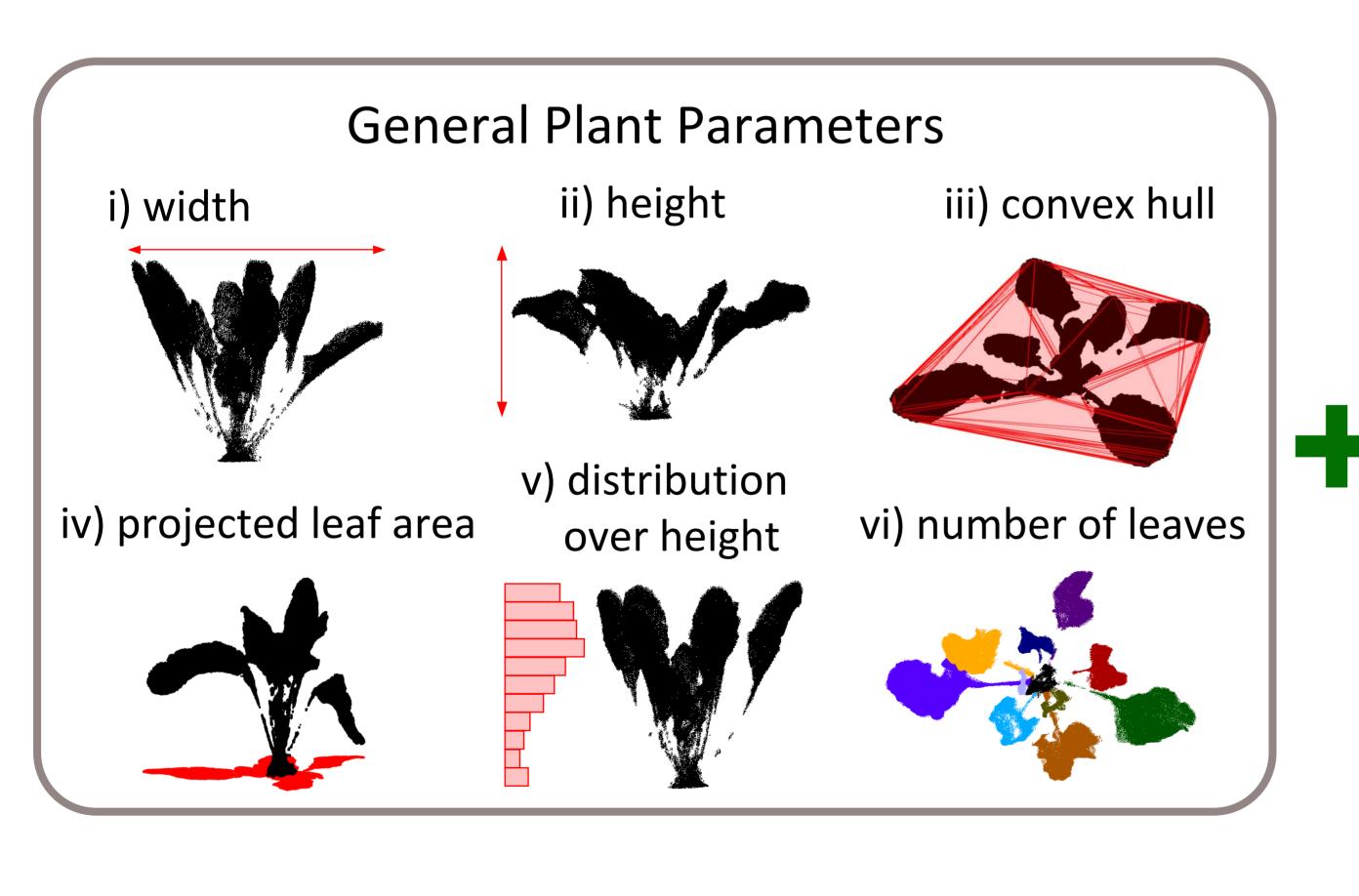
Outlier removal and smoothing

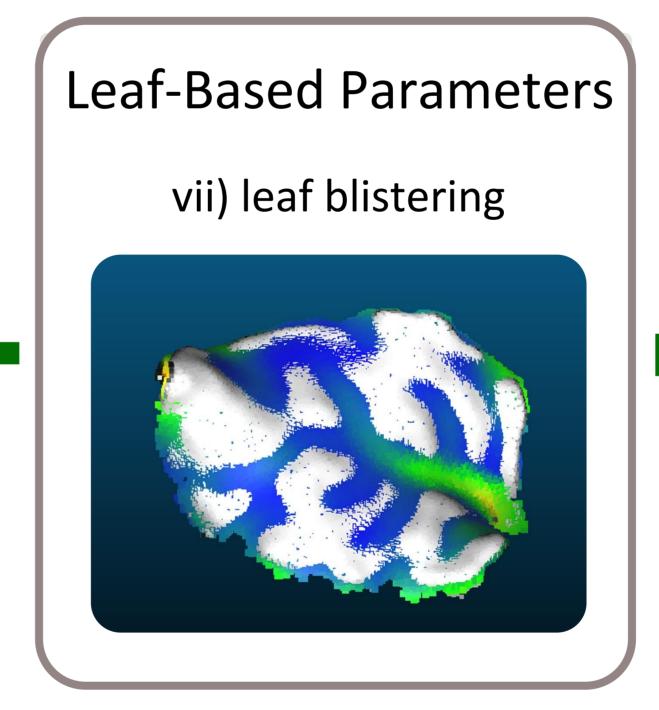


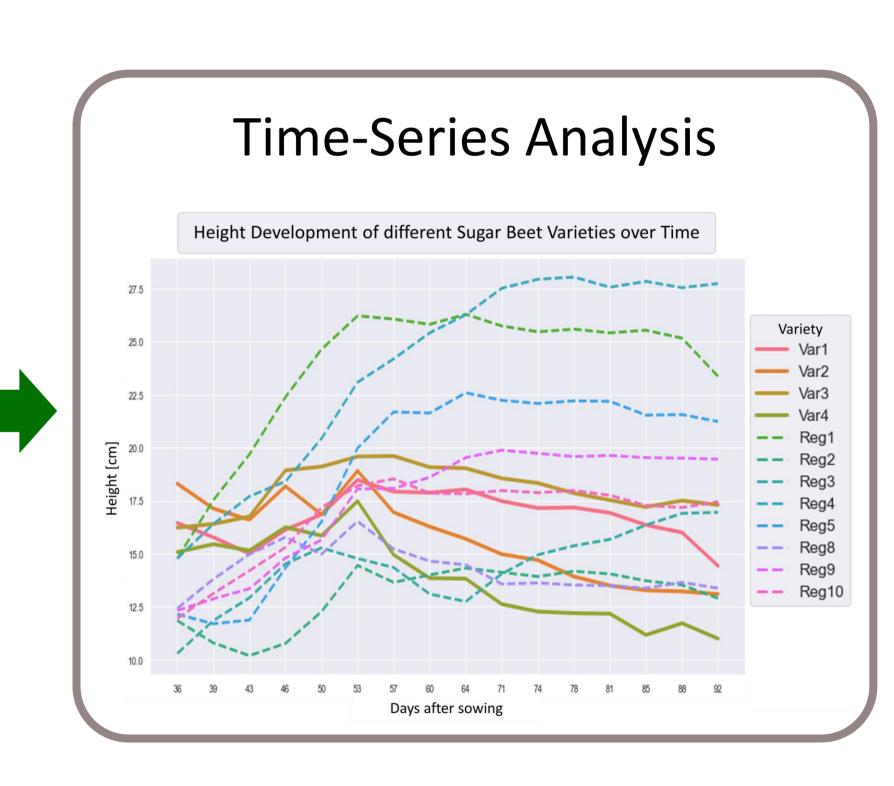


Processed point clouds ready for parameter extraction

Extraction of Plant- and Leaf-Based Parameters







Validation of Modelling and Parameter Extraction

3D Reference Plant

- Based on 3D scans of a real sugar beet plant
- Fully 3D printable model made of PETG
- Monitoring of the quality of data recording and processing
- > Enables precise monitoring of the algorithms for parameter extraction

