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Nomenclature

CNN Convolutional Neural Network

Plant The systematic measurement and analysis of diverse plant traits to

phenotyping understand their growth, development, and performance.

GradCAM Gradient-weighted Class Activation Mapping, an explainable AI

technique used to visualize and understand the decision-making

process of convolutional neural networks.

Leaf Count The process of estimating or determining the number of leaves

Prediction present in plant images.

Accuracy The degree of closeness between the predicted leaf counts and the

actual leaf counts in the plant images.

Sorghum A genus of plants in the grass family Poaceae, cultivated for its grain

used in food, animal feed, and biofuel production.

Dataset A collection of data, typically structured for analysis or training

purposes.

Preprocessing The preparation of data for analysis or training, often involving

cleaning, augmentation, normalization, and annotation.

Normalization Process of standardizing data to a common scale to facilitate fair

comparison and analysis.

Annotation process of labeling or marking specific features or characteristics in

data, often used to provide ground truth for training machine

learning models.

ReLu Rectified Linear Unit, an activation function that introduces non-linearity

in neural networks.

MAE Mean Absolute Error, a metric used to measure the average magnitude

of errors in predictions.

RMSE Root Mean Squared Error, a metric used to measure the square root of

the average of the squared differences between predicted and actual

values.