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Data Normalization:

This is a pre-processing and scaling method that helps improve model accuracy and value consistency. The main purpose of data normalization is to prevent features with large values from dominating those with smaller ones. Normalization is said to be vital when it comes to bringing prediction and forecasting techniques into harmony. Some methods include min-max scaling and z-score standardization.

Data normalization is a critical step in building effective machine learning models. It ensures features contribute equally, improves training speed, supports accurate distance calculations, stabilizes neural networks, and enables fair regularization.

Generally speaking, normalization is required when working with attributes that have multiple scales; otherwise, other qualities with values on a greater scale may dilute the impact of a significant feature that is equally essential (on a lower scale).