

Extreme Gradient Boosting

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- Working procedure same as GBM
- Subsequent trees focus on reducing the error
- Designed for speed and performance

Features of Extreme Gradient Boosting

Regularization

- XGBoost has an option to penalize complex models through both L1 and L2 regularization

Parallel Processing

Handling Missing Values

Out of core Computing

Built-in cross validation

Features of Extreme Gradient Boosting

Regularization

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Handling Missing Values

Out of core Computing

Built-in cross validation

- XGBoost implements parallel processing and hence is faster than GBM
- Parallelizing the node building at each level

Features of Extreme Gradient Boosting

Regularization

Parallel Processing

Handling Missing Values

Out of core Computing

Built-in cross validation

- XGBoost has an in-built routine to handle missing values

Features of Extreme Gradient Boosting

Regularization

Parallel Processing

Handling Missing Values

Out of core Computing

Built-in cross validation

- XGBoost is designed to be memory efficient
- Uses out-of-core computing for very large datasets that don't fit in the memory

Features of Extreme Gradient Boosting

Regularization

Parallel Processing

Handling Missing Values

Out of core Computing

Built-in cross validation

- XGB allows user to run a cross validation at each iteration of the boosting process