
H2O.ai

Current XGBoost Support

1. XGBoost is not supported on Windows.
2. XGBoost is initialized for single-node H2O clusters; however multi-node XGBoost support is available as a Beta feature.
3. The list of supported platforms includes:

Platform	Minimal XGBoost	OMP	GPU	Compilation OS
Linux	yes	yes	yes	Ubuntu 14.04, g++ 4.7
OS X	yes	no	no	OS X 10.11
Windows	no	no	no	NA

Note: Minimal XGBoost configuration includes support for a single CPU.

4. Because we are using native XGBoost libraries that depend on OS/platform libraries, it is possible that on older operating systems, XGBoost will not be able to find all necessary binary dependencies, and will not be initialized and available.
5. XGBoost GPU libraries are compiled against CUDA 8, which is a necessary runtime requirement in order to utilize XGBoost GPU support.

LightGBM

- released by Microsoft in 2016; attempt to improve speed and memory usage ("Light")

  1. Data parallelization and histogramming (like H2O)

  2. Gradient-based one-sided sampling (GOSS):
     ➡ don't test all the data; prefer data points with large gradients

  3. Exclusive Feature Bundling:
     ➡ method of feature engineering to reduce sparsity

  4. Leaf-wise growth:

- otherwise includes most of the XGBoost options (e.g. L1/L2 regularization, DART)

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