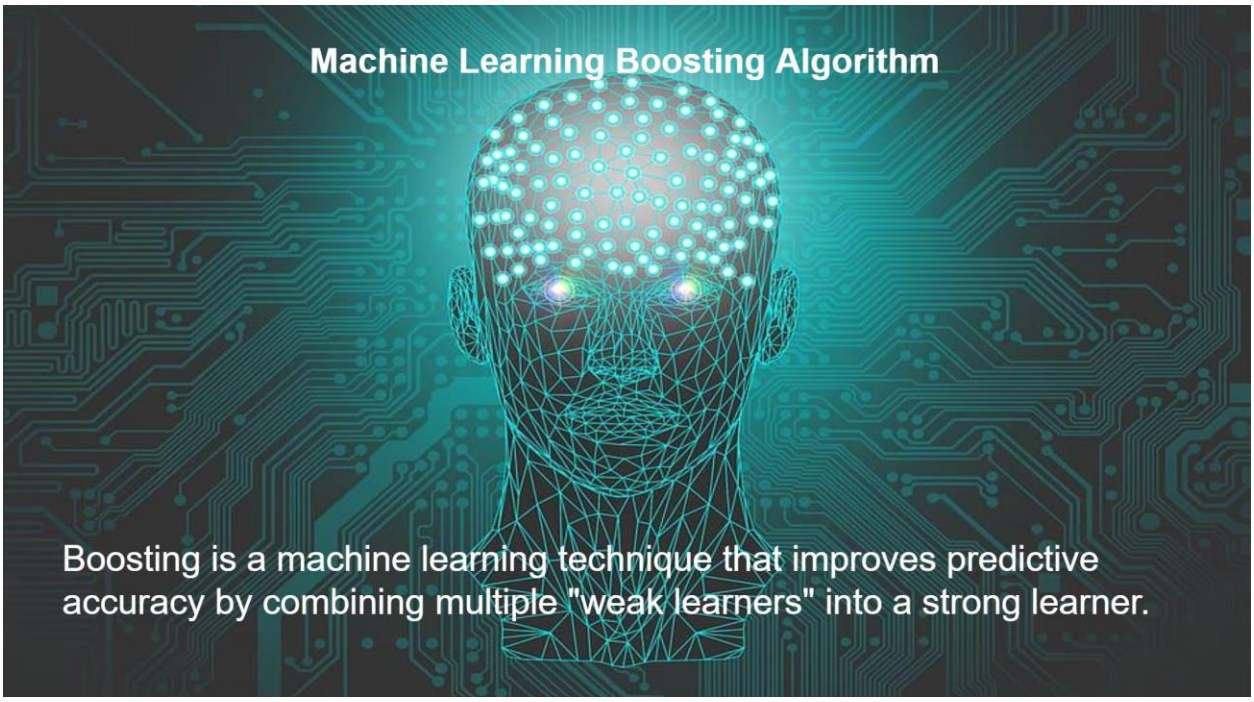
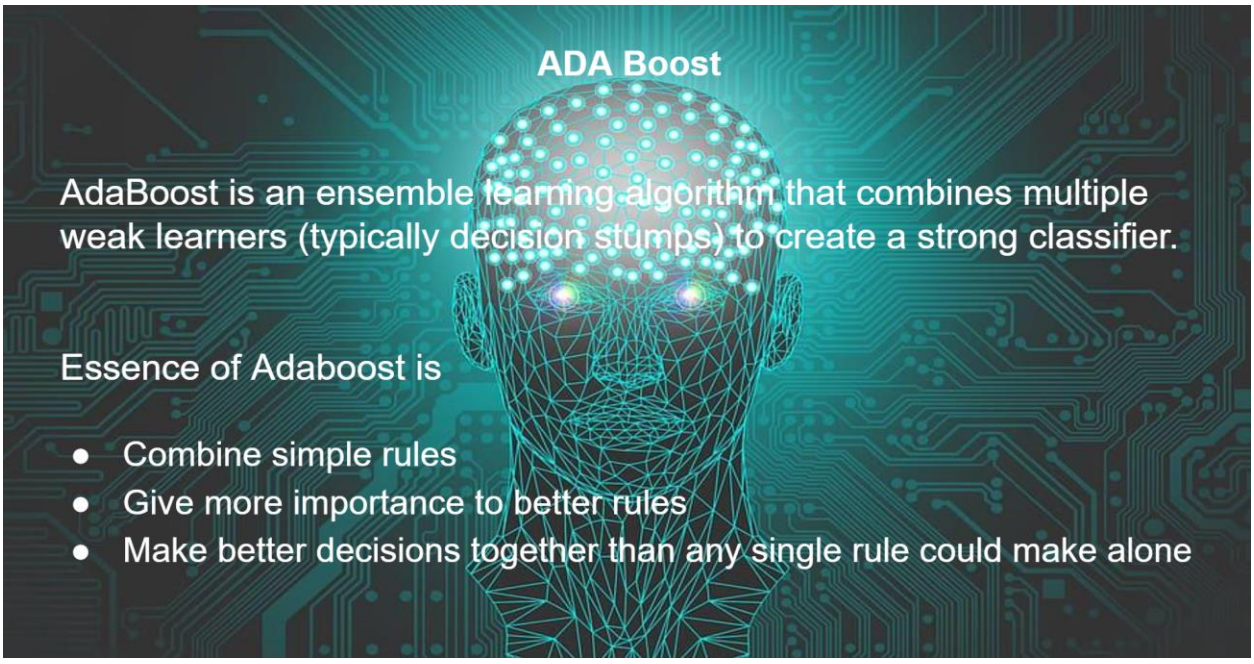
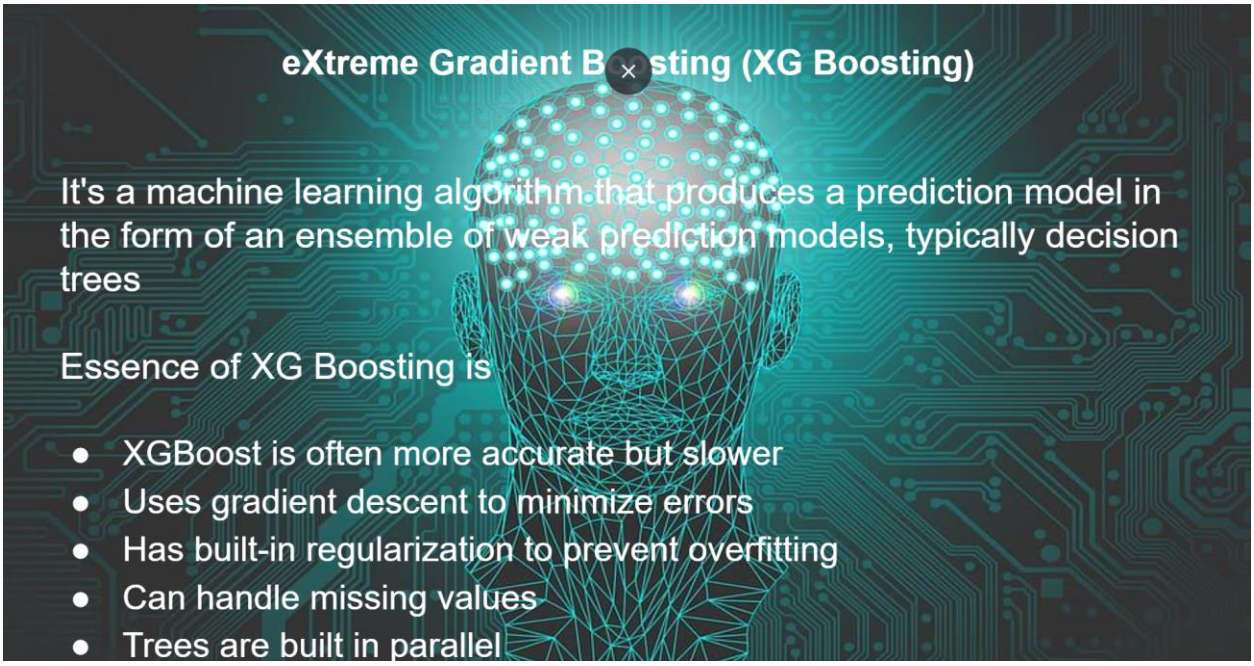
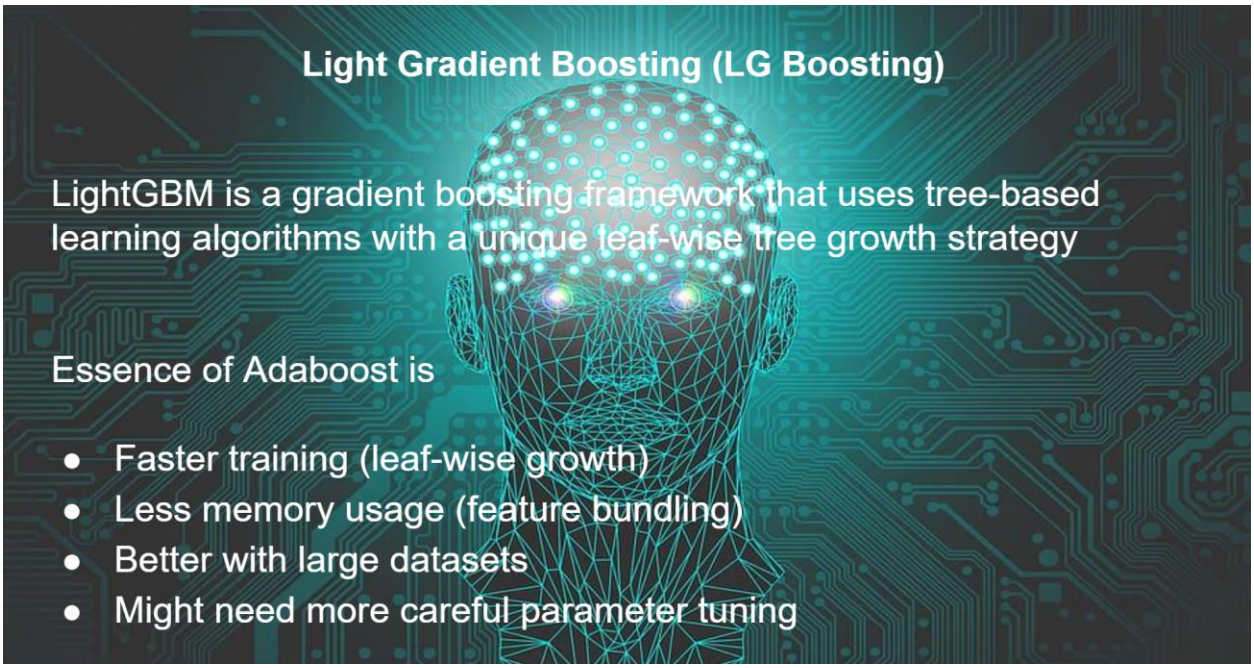

Machine Learning Boosting Algorithm
Boosting is a machine learning technique that improves predictive accuracy by combining multiple "weak learners" into a strong learner.


ADA Boost
AdaBoost is an ensemble learning algorithm that combines multiple weak learners (typically decision stumps) to create a strong classifier.
Essence of Adaboost is
Combine simple rules
Give more importance to better rules
Make better decisions together than any single rule could make alone


eXtreme Gradient Boosting (XG Boosting)
It's a machine learning algorithm that produces a prediction model in the form of an ensemble of weak prediction models, typically decision trees
Essence of XG Boosting is
XGBoost is often more accurate but slower
Uses gradient descent to minimize errors
Has built-in regularization to prevent overfitting
Can handle missing values
Trees are built in parallel


Light Gradient Boosting (LG Boosting)
LightGBM is a gradient boosting framework that uses tree-based learning algorithms with a unique leaf-wise tree growth strategy
Essence of Adaboost is
Faster training (leaf-wise growth)
Less memory usage (feature bundling)
Better with large datasets
Might need more careful parameter tuning