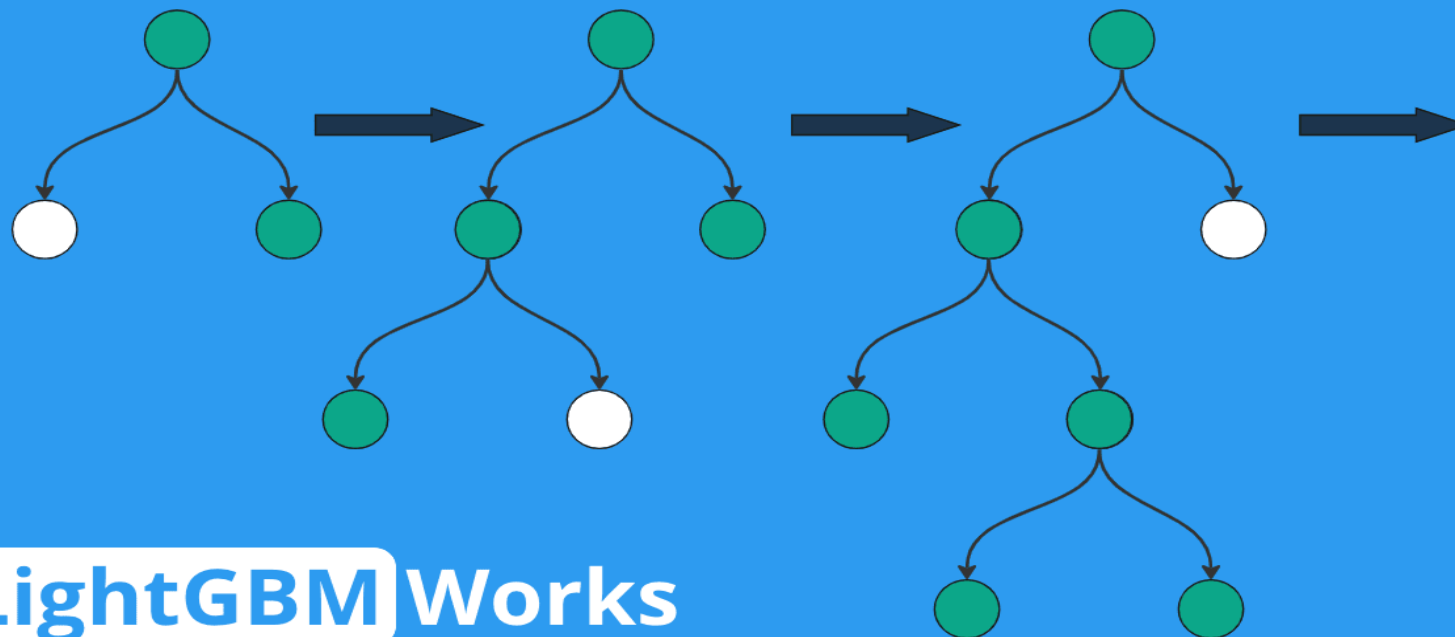


# LightGBM Regression

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# How **LightGBM** Works

## LightGBM's Unique Features:

- Leaf-wise Growth:** Unlike other boosting algorithms that grow trees level-wise, LightGBM grows trees leaf-wise, which can lead to a more optimized tree structure.
- Histogram-based Algorithm:** Uses a histogram-based algorithm to speed up training.
- Categorical Feature Handling:** Efficient handling of categorical features

**Advantages:**

Faster training speed and higher efficiency.

Lower memory usage.

Better accuracy due to leaf-wise growth.

Support for categorical features and missing values.

**Disadvantages:**

Can overfit if not properly tuned.

More complex parameter tuning compared to some other algorithms.