Gradient Boost Exercise

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Objective

To implement and evaluate XGBoost classification on the Mushroom dataset, analyzing both accuracy and training efficiency.

Dataset
- Source:https://archive.ics.uci.edu/dataset/73/mushroom
- 22 categorical features
- Binary target: edible (e) or poisonous (p)
- Preprocessing: Label Encoding for all columns

Model: XGBoost
- Objective: binary:logistic
- Evaluation Metric: error
- Boosting Rounds: 100

Results
- Accuracy: 100%
- Training time: 0.4095 secs

Conclusion

XGBoost performed exceptionally well, achieving perfect classification with minimal training time. This demonstrates the power of gradient boosting methods for high-dimensional, categorical datasets.