

Machine Learning in Python

Supervised Learning - Classification and Metrics

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Outline

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Classification vs. Regression is a key distinction in supervised learning:

- In **classification**, the target variable is categorical (e.g., "spam" or "not spam").
- In **regression**, the target variable is continuous (e.g., predicting a price).

Classification Types

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- **Binary Classification:** The target variable has two classes (e.g., "yes" or "no", "spam" or "not spam"). Numerically, this can always be represented as 0 and 1.
- **Multiclass Classification:** The target variable has more than two classes (e.g., "cat", "dog", "weasel"). In this case, the model predicts one of several possible categories.

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- More advanced algorithms like **Random Forests**, **Gradient Boosting**, and **Neural Networks**.