

# Python Machine Learning Course Online (Self-Paced)

Learn the fundamentals of machine learning, including regression analysis and classification algorithms, in this practical, hands-on course. Gain the skills needed to solve real-world problems using machine learning, with a focus on Python programming and data science libraries.

For more information, visit  
<https://cl.nobledesktop.com/tech/courses/python-machine-learning-online>



## Course Outline

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### Fundamentals

#### Basic Regression Analysis

- Linear Regression
- Mean squared error
- Training set vs Test set
- Cross validation

#### Advanced Regression Analysis

- Multi-linear regression
- Feature engineering
- Overfitting

### Classification

#### Logistic Regression

- Regression vs Classification
- Logistic Regression
- Sigmoid function

#### K-nearest Neighbors

- K-nearest neighbors
- Model-based vs memory-based
- Parametric vs non-parametric
- Evaluating performance

## Decision Trees

### Decision Trees

- Decision tree
- Interpretability
- Bias-variance tradeoff

### Random forest

- Random forest
- Ensemble methods
- Hyperparameters

## Final Portfolio Project