

# Python Machine Learning Immersive

Take a step beyond normal programming, into using algorithms that can independently learn patterns and make decisions. Machine learning skills are in high demand, as these algorithms now run the majority of trading on Wall Street and the product recommendations at big companies like Amazon, Spotify, and Netflix.

Group classes in Chicago and onsite training is available for this course. For more information, email [class@programwithus.com](mailto:class@programwithus.com) or visit: <https://programwithus.com/classes/python-machine-learning-chicago>



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## Course Outline

### 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**

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- Decision tree
- Interpretability
- Bias-variance tradeoff

### **Random forest**

- Random forest
- Ensemble methods
- Hyperparameters